# NovaCloud Solution User's manual

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XI'AN NOVASTAR TECH CO.,LTD

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# 1 Summary

Nova Cloud is a set of software used for multimedia remote centralized publication and system centralized monitoring based on broadband internet to provide the industry application solution featured in safety, reliability, centralized management and standardization and easy extension for LED display cluster control and other display cluster systems.

Nova Cloud solution mainly includes three parts which are Nova Cloud server, integrated playback control software( MC-go), terminal software (MarsSite, PlutoSite). It can fully support Nova synchronous and asynchronous control systems.

When it is applied to the synchronous control system, it includes Nova Cloud server, MC-go, and MarsSite. The terminal is a playback control computer, to run the terminal software MarsSite. When it is applied to the asynchronous control system, it includes Nova Cloud server, MC-go, and PlutoSite. Asynchronous control card PSD100 shall be as the terminal to run the terminal software PlutoSite.

Terminal is managed by management center (MC-go), to achieve the functions such as schedule creating, publishing, monitoring, etc. Management center uploads the commands and playback information to the server, the terminal periodically downloads the commands and schedule from server and transfers the feedback information back to the server; the terminal and MC-go account must be registered on the server, and otherwise, the interaction among the three cannot be achieved.

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## 1.1 System Features

- Centralized release

Base on the broadband Internet architecture, support the standard HTTPS (HTTP+SSL) and FTPS(FTP+SSL) server, provide the safe and reliable high speed information release and download service, and remotely, centralizedly and standardizedly manage the media release.

- Remote monitoring

Base on the leading Nova monitoring system, support remotely and centralizedly collecting the running parameters of display screen, intuitively and comprehensively control system operation state in real time, support alarm function for the fatal problems occur to the system, and provide efficient system maintenance business environment.

- Layered protection

The system uses multiple security measures, covering all aspects of data storage, transmission and play and so on, so as to ensure data consistency and reliability.

The system uses the registration mode to manage the terminal access and MC-go authority, ensuring that the system access security is controlled.

- Media management

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All terminals of one user share one media library, and the system doesn’ t upload repeatedly while terminals playing the same media or play schedule including the same media, which improves the media release efficiency and saves server space.

- Easy to extend

Nova Cloud server system adopts extensive system architecture to support deployment from single server to multiple acceleration servers so as to meet the demands of different scale of cluster application from several terminals to thousands of them.

The system is easy to expand, which provides users with optimal solutions both for cost and performance, and the system will gradually increase deployment as business grows, so as to protect customers' investments.

- Autonomous terminal

The terminal software is autonomous, and unattended.

The terminal automatically interacts with the system, automatically download schedule , automatically detects the system status and reports to the system, automatically obtains a system control command and then executes such command, feedbacks execution results to the system, without human intervention.

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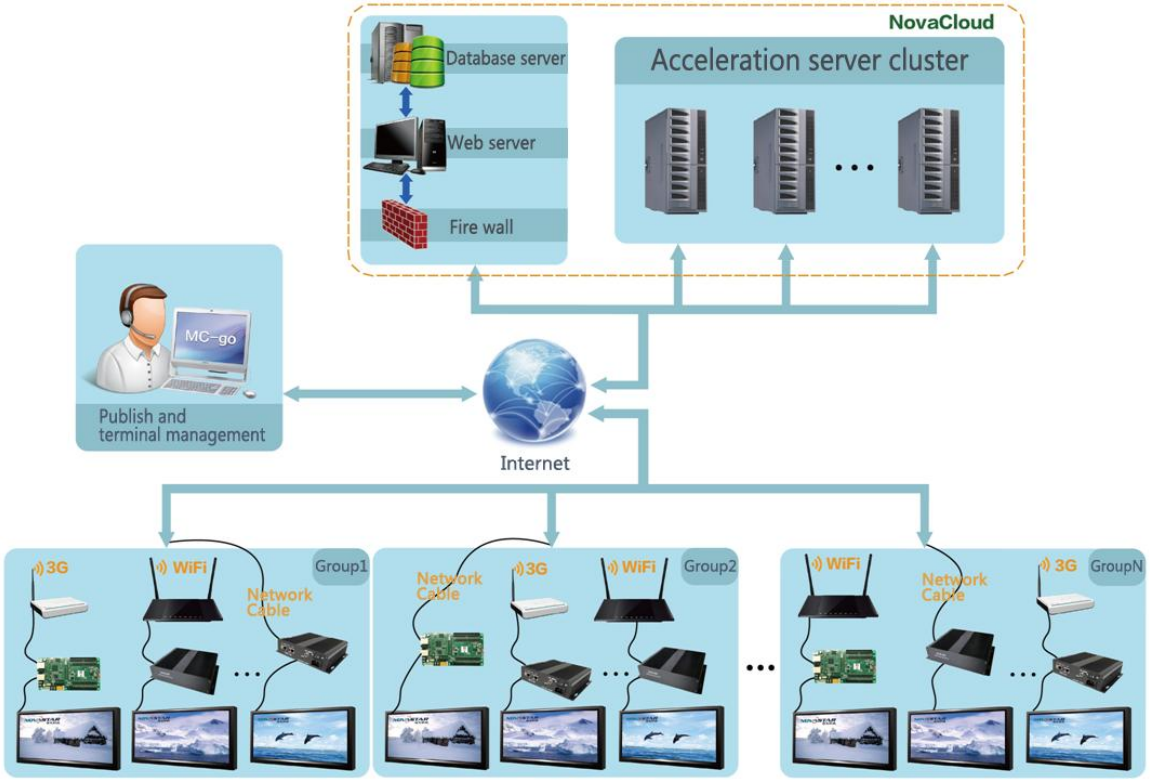
## 1.2 Program's Network Architecture

The network architecture of Nova display cluster management program is as follows:

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## 1.3 Equipment Requirements

**1) Service Platform Nova Cloud**

The service platform Nova Cloud is composed of Web server, database server and acceleration server cluster. In terms of safety, it must be furnished with hardware fire wall; in terms of bandwidth, it must be deployed in backbone networks. It must be ensured that every terminal has at least more than 2M bandwidth.

Routine maintenance is important to guarantee uninterrupted normal service of the service platform Nova Cloud. Nova has a professional service platform maintenance team.

**2) Management Center Computer**

Used to run MC-go software to fulfill functions such as preparation of playing scenario, remote release and remote monitoring; it needs to get access to the Internet. The bandwidth is recommended to be more than 4M.

**Computer hardware equipment requirements**

CPU: dual-core, above 2.4Ghz

- Hard disk SCSI interface, volume above 500GB
- Video card: graphics card: discrete graphics, hardware 3D acceleration, video memory above 1G

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**Management center computer software**

- Operating system environment: windows XP SP3,Windows7 32bits
- Installed component: Microsoft .NET Framework4.0
- Management center software: MC-go

**3) Terminal**

**a) Synchronous Terminal: Mars-Site**

The terminal computer is the control computer of LED or LCD displays. Apart from guaranteeing the requirements of LED or LCD displays, it shall specifically meet the following requirements.

**Terminal hardware equipment requirements**

- CPU: dual-core above 2.4GHz
- Hard disk: above 300GB
- Graphics card: discrete graphics, hardware 3D acceleration, video memory above 1G

**Terminal software**

- Operating system environment: windows XP SP3,Windows7 32bits, 64bits;

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- Installed component: Microsoft .NET Framework4.0
- Nova Cloud terminal master control software

**b) Asynchronous Terminal**

The terminal adopts NOVA asynchronous play box PBOX100. Local IP is set to automatically obtain IP; corresponding server parameters shall be set correctly.

# 2 Installation and deployment

## 2.1 M3 System terminal deployment

M3 System terminal is the terminal master control software (called " MarsSite " for short) running on the master control computer of the display screen.

Nova Cloud terminal software package is a standard Windows Setup software installation package located at the following CD path of the system: \Nova Cloud\ MarsSite \Marssite Setup.exe.

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### 2.1.1 MarsSite installation

Start the Marssite Setup.exe on the disc to begin installation of Nova Cloud terminal, its installation steps are the same as the ordinary software, and in the installation process, pay attention to the following matters.

Installation Notice:

1) During the installation process, if the current computer is installed with anti-virus software, the warning dialog box will pop up, Please Just select "this operation is permitted" or "all operations of the program are permitted" and click "OK" to continue.

2) During the installation process, if the computer is not installed with Microsoft.NET Framework2.0., prompt box shown in Fig. 3-10 will pop up, and at this moment, click "Next", the system will automatically complete the installation.

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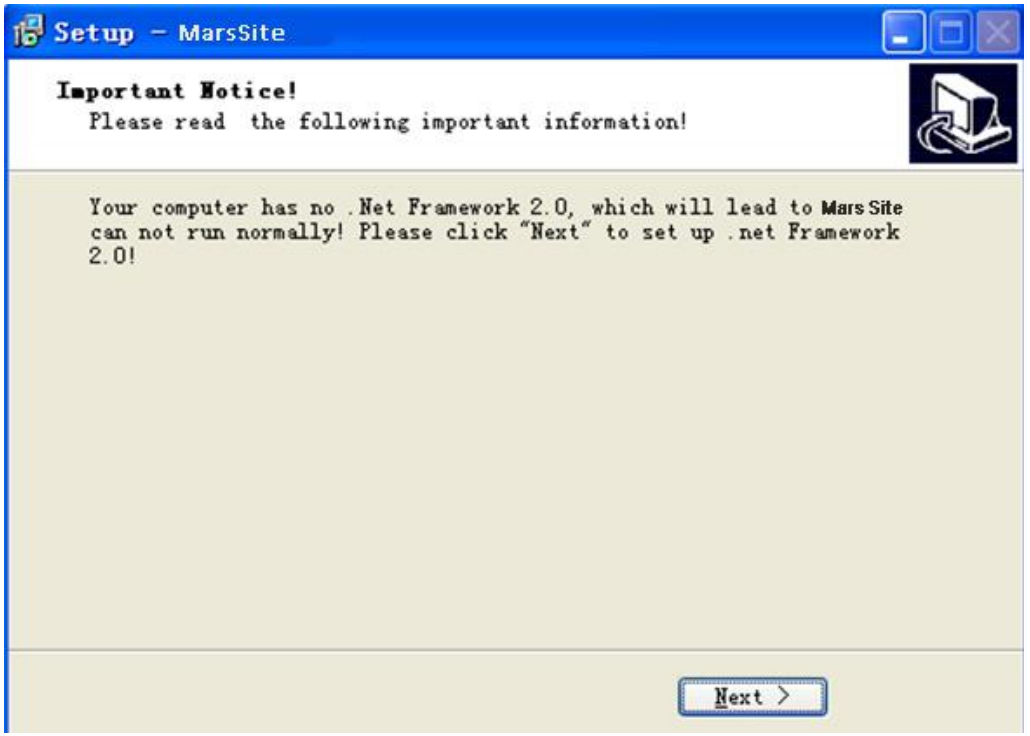
Setup - MarsSite
Important Notice!
Please read the following important information!
Your computer has no .Net Framework 2.0, which will lead to Mars Site can not run normally! Please click "Next" to set up .net Framework 2.0!
Next >

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### 2.1.2 General settings of the terminal computer

Terminal is the remote unattended automated software, so terminal computer is required to keep some general settings to avoid inability of automatic running.

| | |
|---|---|
| | Circumstances require for manual intervention mainly include:<br>1 ) It is available to automatically start the operation system and login;<br>2 ) You should automatically connect to the network, and disconnected automatic reconnection mechanism shall be equipped;<br>3 ) Can not keep dormant;<br>4 ) Screen protection is unavailable;<br>5 ) Start and shutdown normally and don't power off violently.<br>6 ) If there is a firewall, properly configure the open ports; |

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## 2.2 MC-go deployment

Prior to the MC-go deployment, it is required to confirm if the operating system and .NET Framework meet the demands, which is detailed at clause 1.3 Equipment requirements. NetFx20SP1_x86.exe patch shall be installed where necessary.

The software package of MC-go is the standard Windows Setup software installation package, and the CD path of operation and maintenance program software installation package is: \Nova Cloud\MC-go\MC-go Setup.exe.

The installation steps are the same as common software and as per guide instructions. Attention should be paid to the following items during installation.

Installation Notice:

1) During the installation process, if the current computer is installed with anti-virus software, it will pop up a warning dialog box, simply select "Allow the Operation" or "Allow All Operations of the Program”, and click "OK" to continue.

2) During the installation process, if the current computer is not installed with Microsoft.NET Framework2.0., prompt box shown in following fig. will pop up, and at this moment, click "Next", the system will automatically complete the installation.

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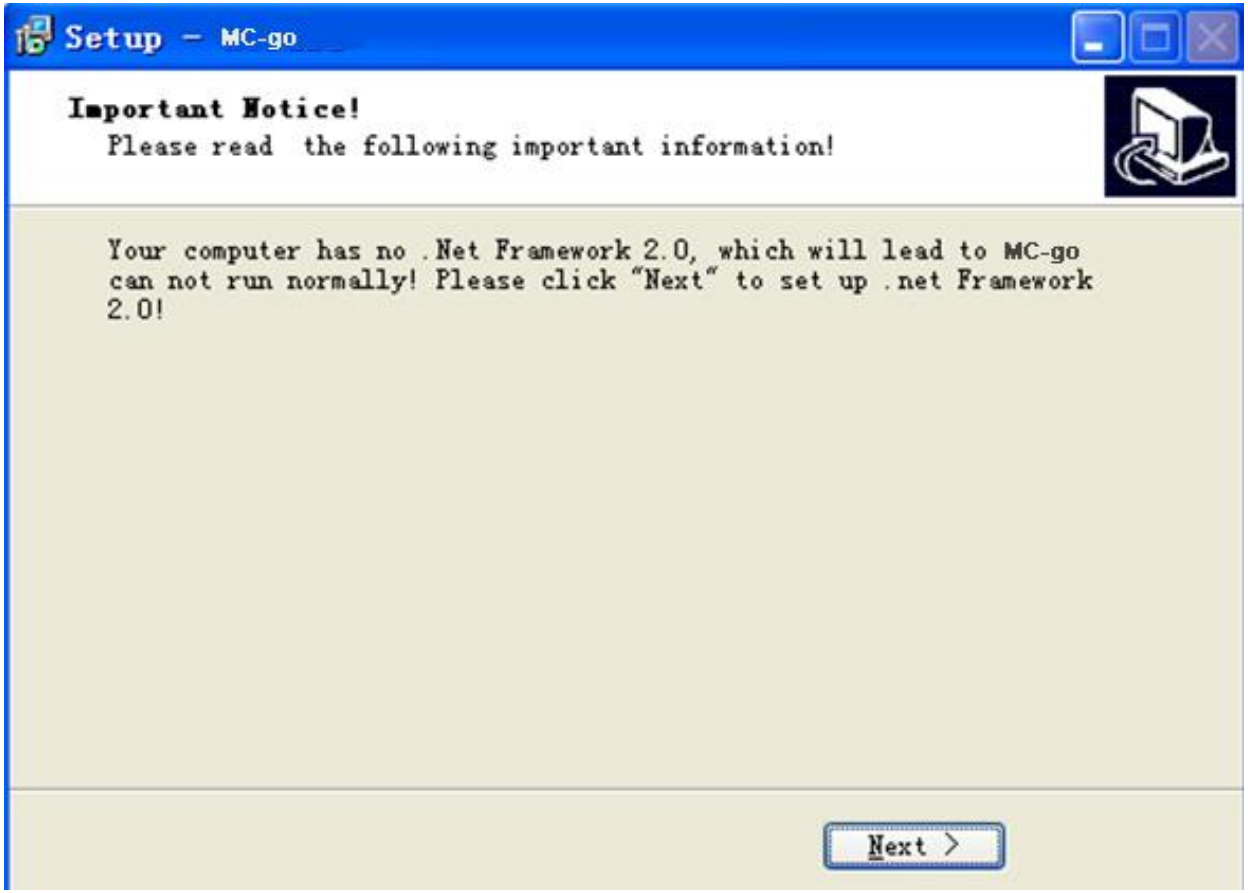
Setup - MC-go
Important Notice!
Please read the following important information!
Your computer has no .Net Framework 2.0, which will lead to MC-go can not run normally! Please click "Next" to set up .net Framework 2.0!
Next >

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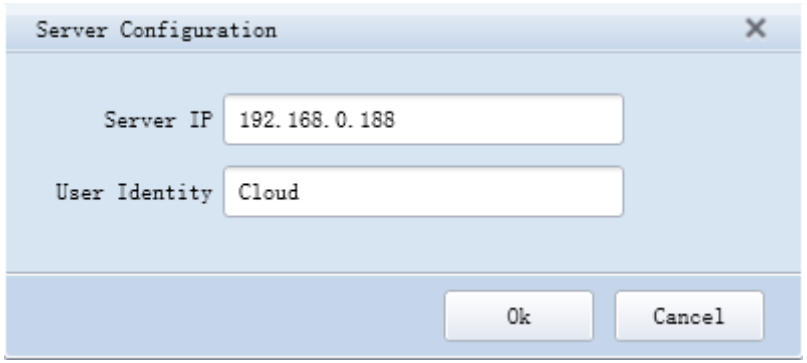
# 3 Information Registration

The server administration authority is the supreme authority of Nova Cloud system. The relevant information must be registered at the Cloud server, including Terminal group, Terminal, Role, MC-go accounts, System, Contact etc., and otherwise the system will deny access.

Log in the Cloud server as per the following steps：

**1)** Run MC-go, and on the login interface, click on , to enter the server IP（ LAN : the default is 192.168.0.188 , WAN : The IP assigned by IDC ) User Identity: “Cloud”, then click on “OK”.

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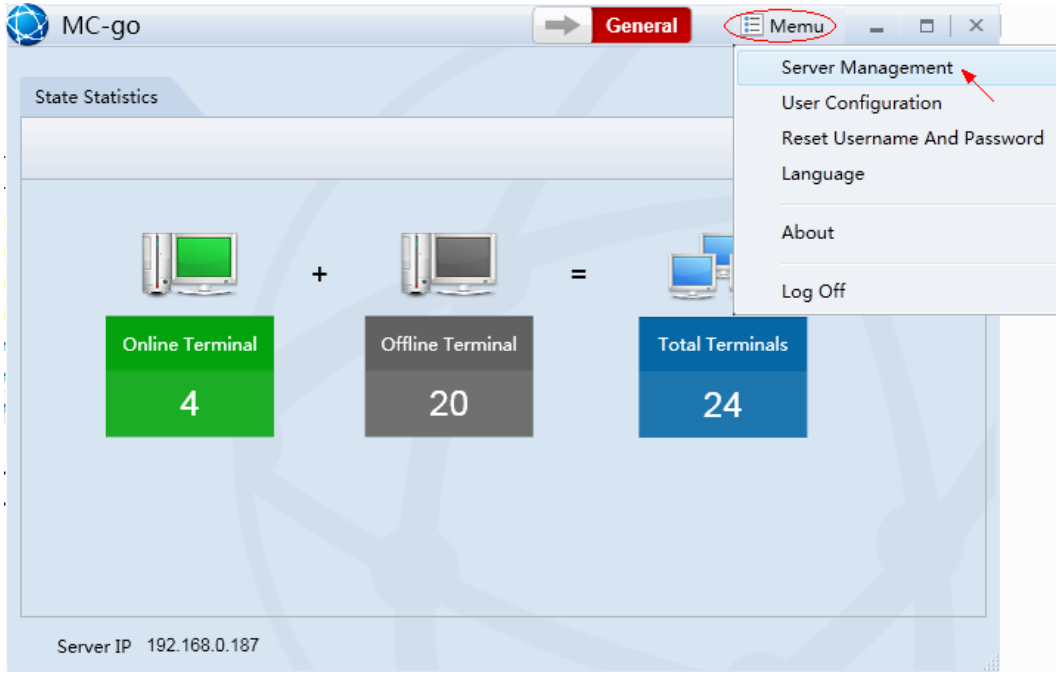
**2)** Login MC-go. For the initial login, the user name shall be "admin", the password shall be "123456", and after entering the MC-go main interface, click 【Menu】→【Server Management】, to enter the Nova Cloud server manager center.

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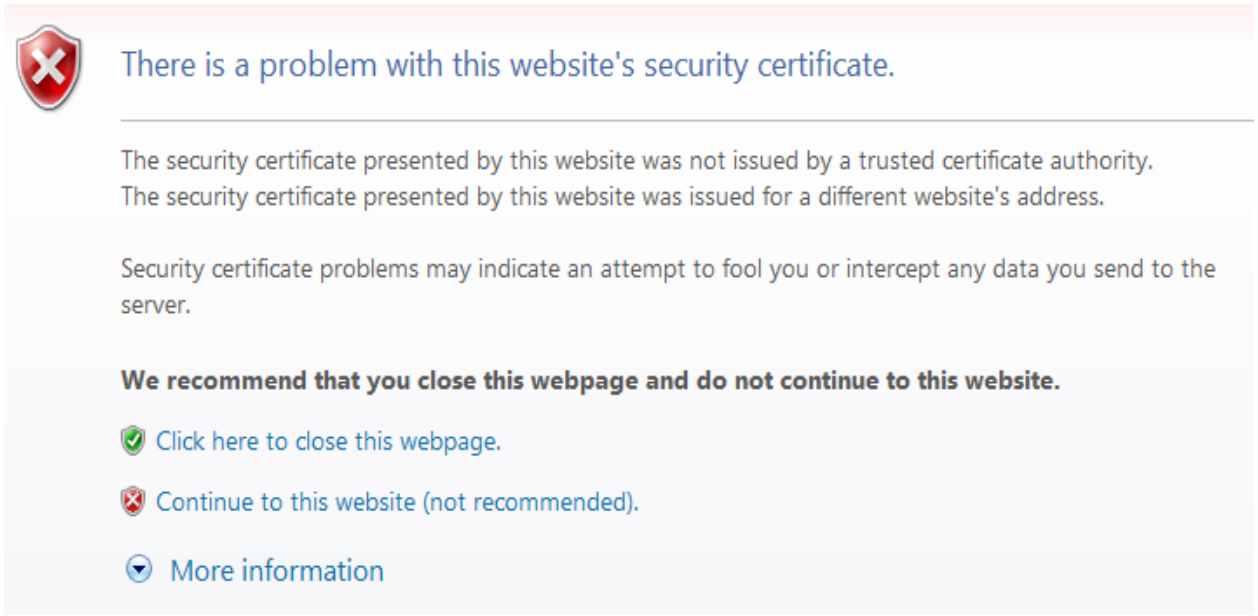
There is a problem with this website's security certificate.
The security certificate presented by this website was not issued by a trusted certificate authority.
The security certificate presented by this website was issued for a different website's address.
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
We recommend that you close this webpage and do not continue to this website.
Click here to close this webpage.
Continue to this website (not recommended).
More information

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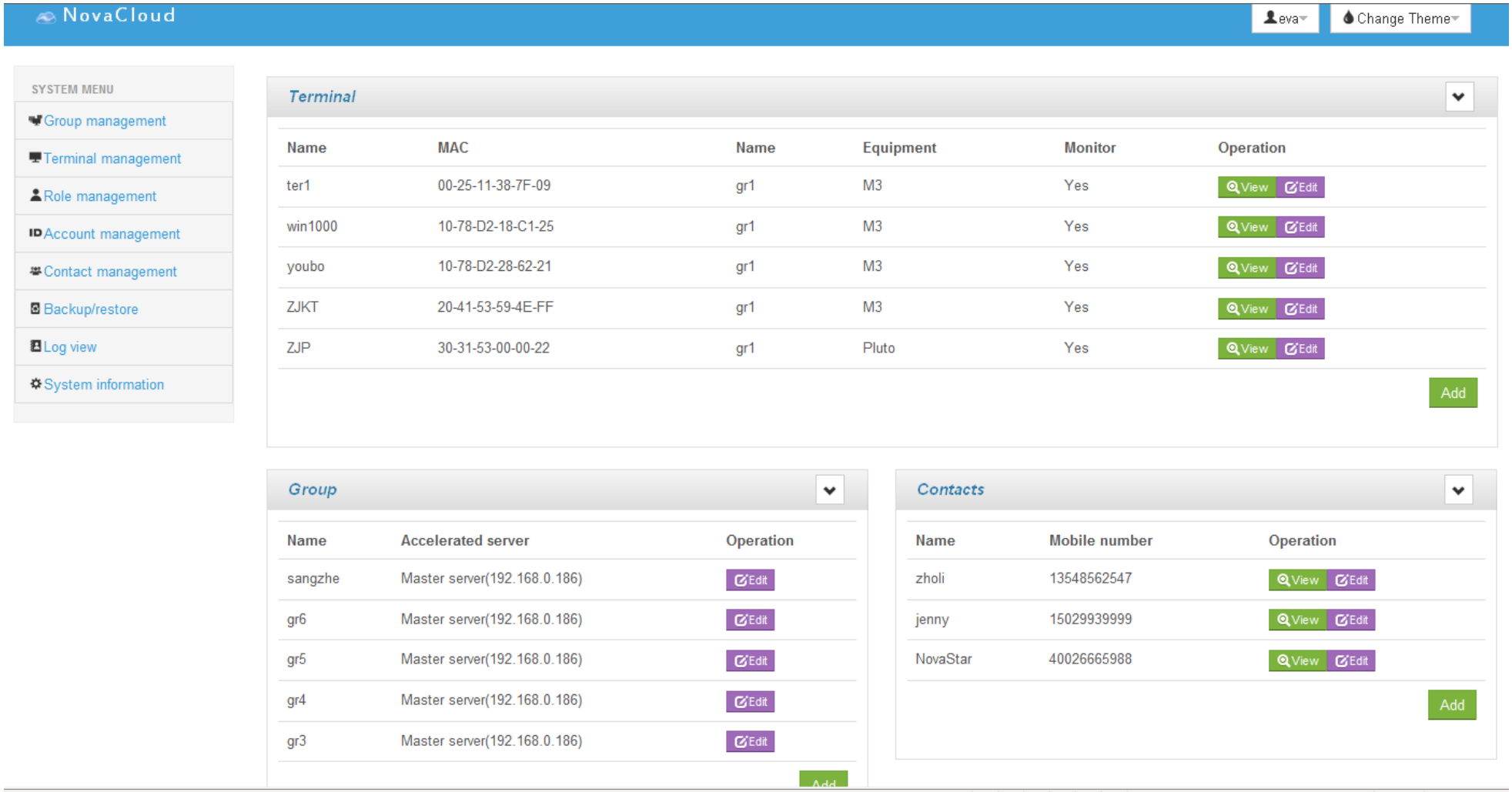


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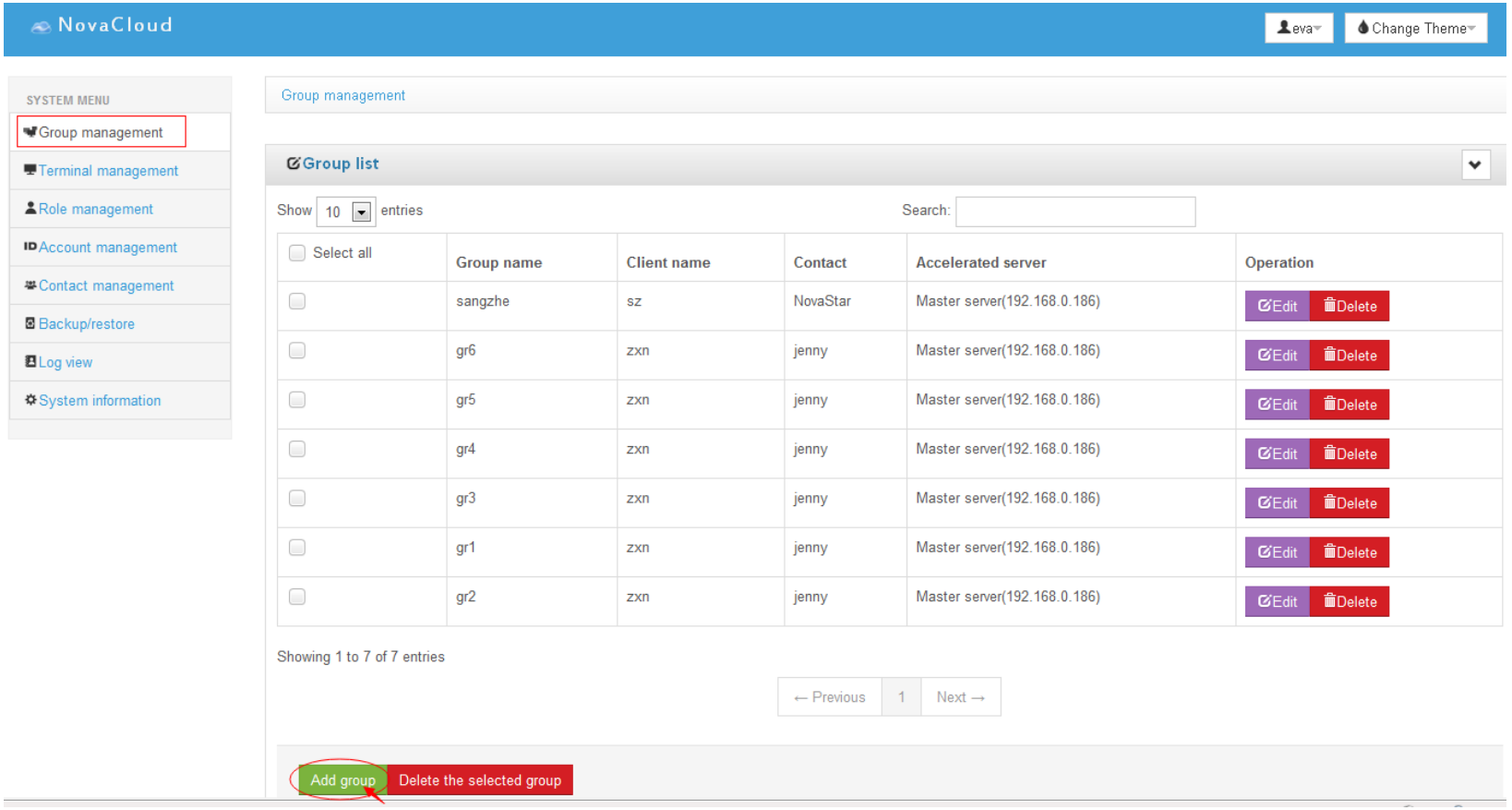
## 3.1 Group management

This system manages the terminals in accordance with the grouping way. It is available to group according to the features of all zones of terminals to facilitate the management and unified release of the play schedule, and besides, it is allowed to set the grouping authority, where only some people are allowed to operate the grouping.

Click 【add】 under 【group】 menu to start to add groups. Complete the basic information required for each step according to the prompts. If the group information input currently fails to pass

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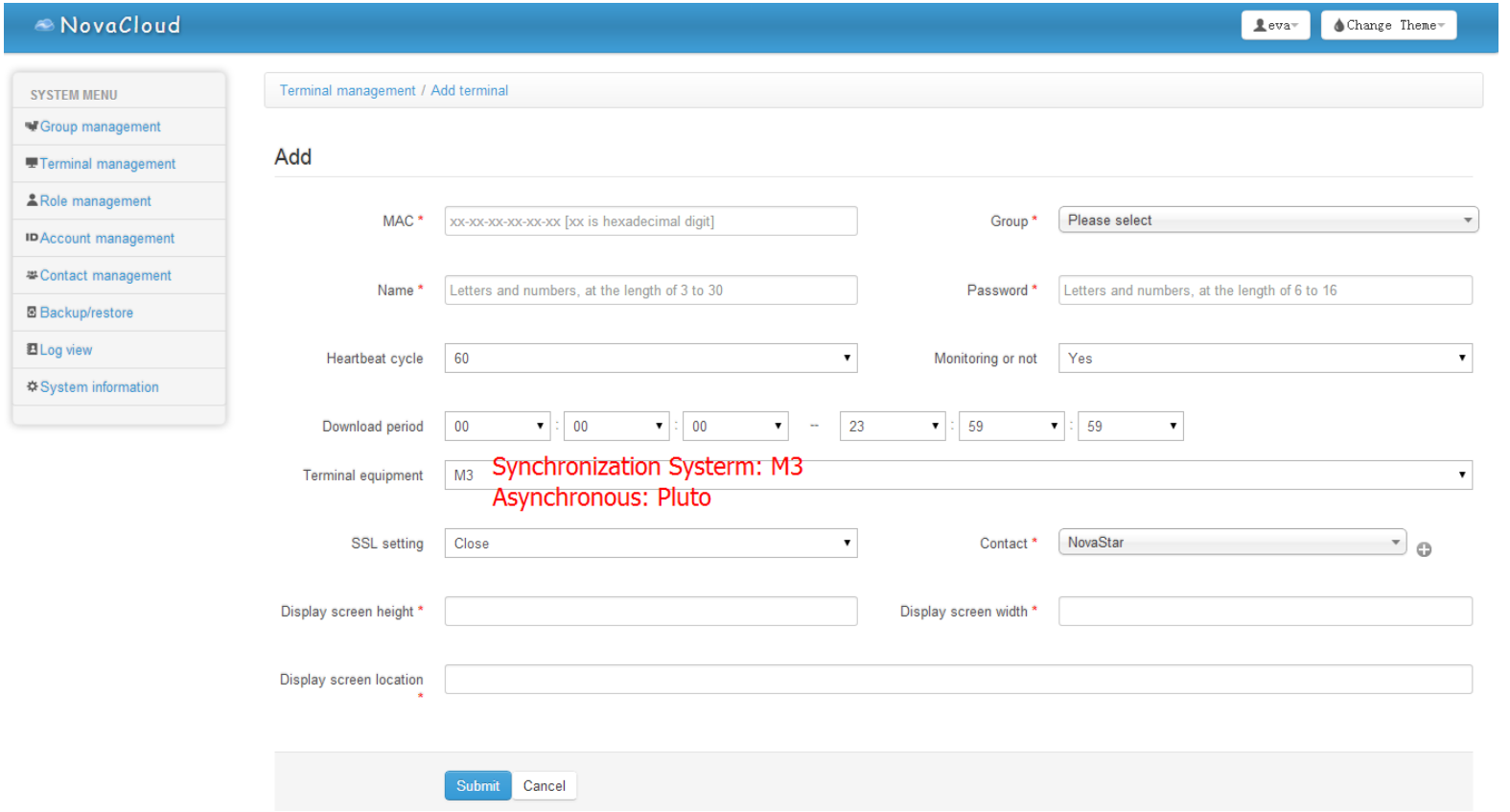
system verification, you will be unable to enter the next step. For data whose current verification is incompliant, the title ahead of its input box is red. If verification fails, please correct the current data format according to prompts.

Editing of registration information: in addition to revising inaccurate registration information, it also supports accelerated server migration.

## 3.2 Terminal management

The terminal must be registered to the master server, so as to be able to access the system. Like registration grouping, all input parameters should be accurate to facilitate view while conducting the maintenance.

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**Tips:** The terminal's registered password must be put on the record; the terminal software must set the correct password so as to pass the check of the system, and successfully interact with the system.

The terminal editing function can amend inaccurate terminal registration information to make the terminal information more easily identified in the system.

## 3.3 Role management

Different roles shall be defined, and function authority for each role shall be classified; and the authority includes the group management, account management, terminal management, role management, system information, backup / restore, contact management, log view and interface interactive application. The users can modify the role name, status and other information through the role editing.

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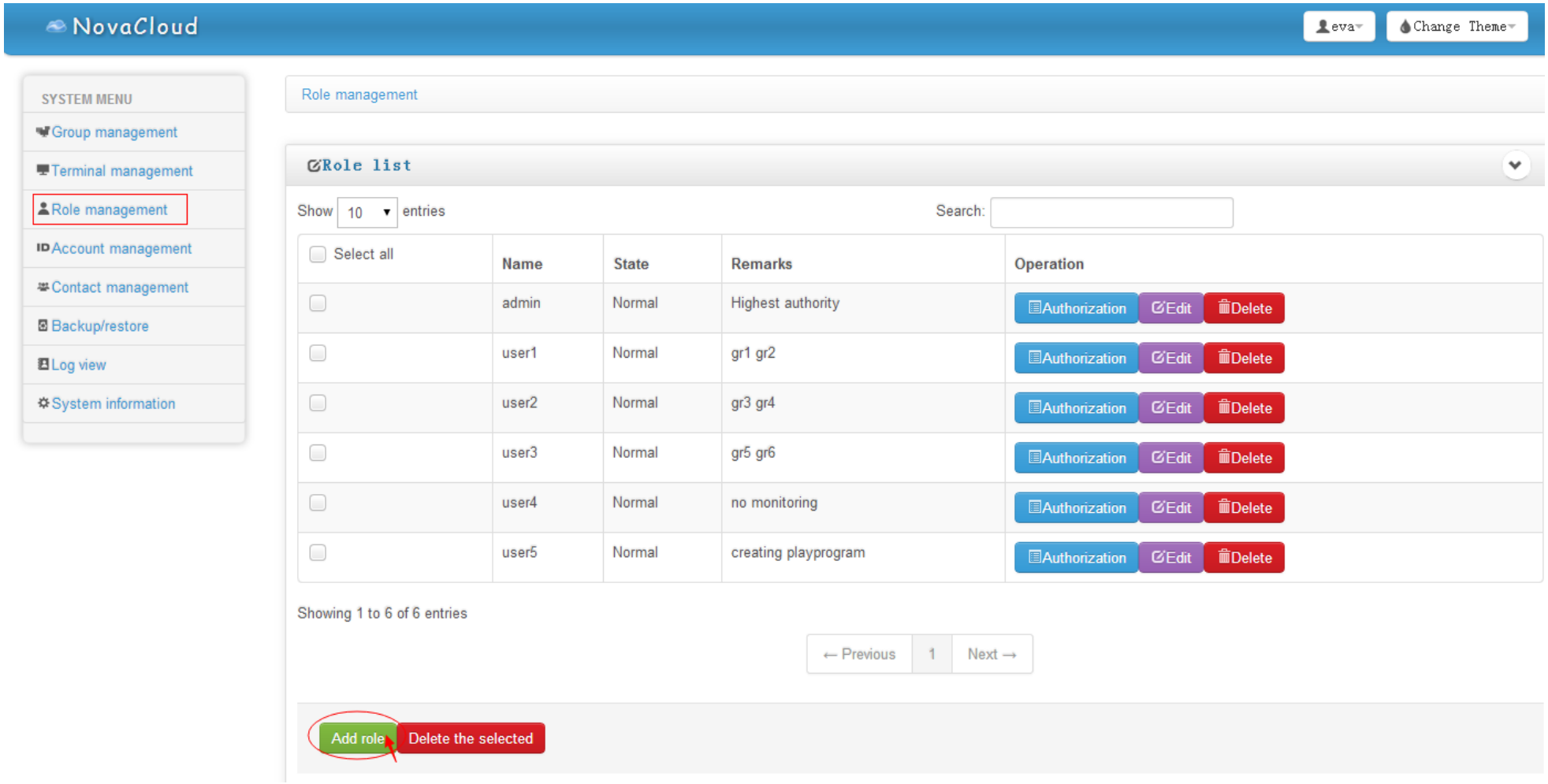


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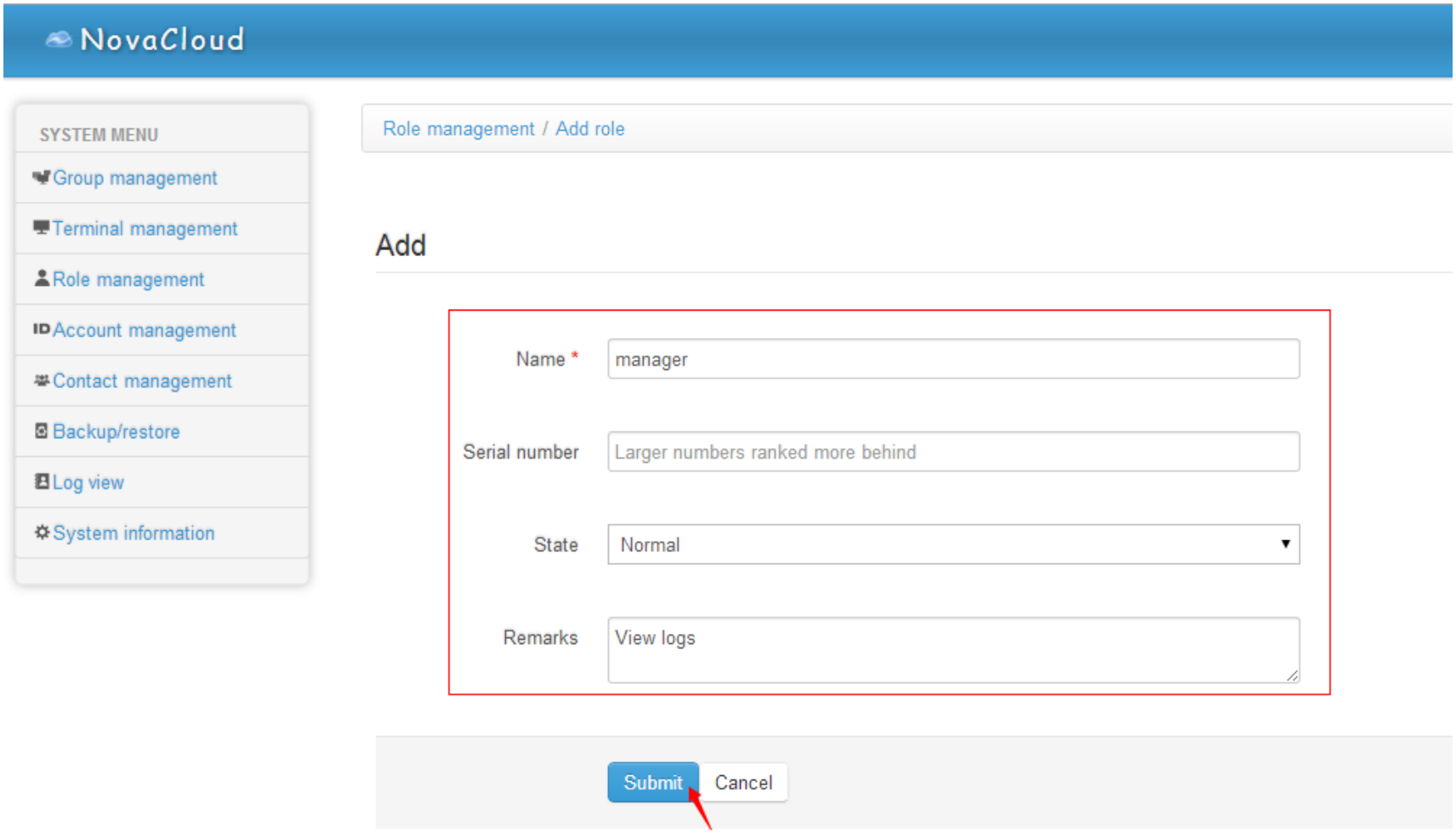


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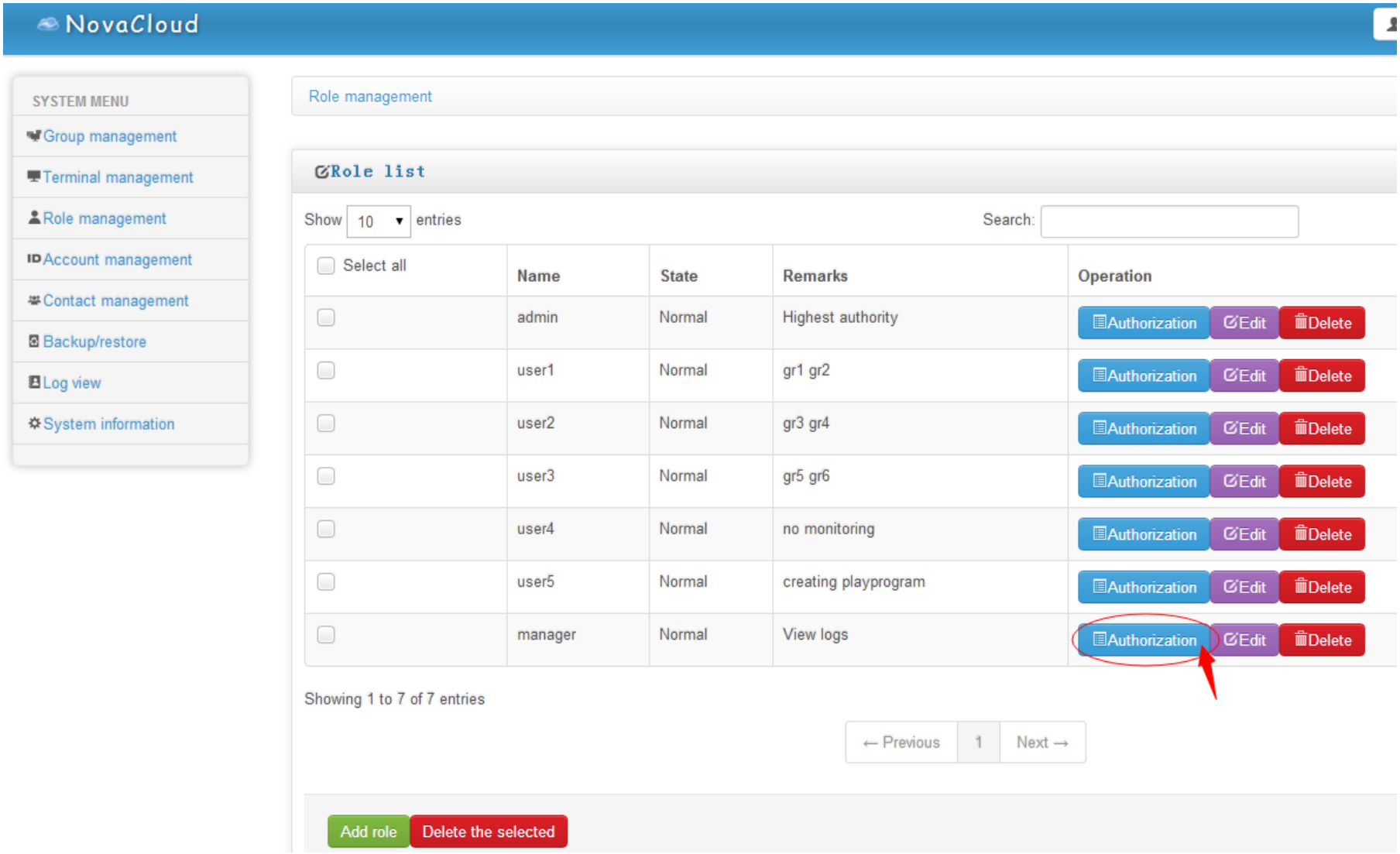


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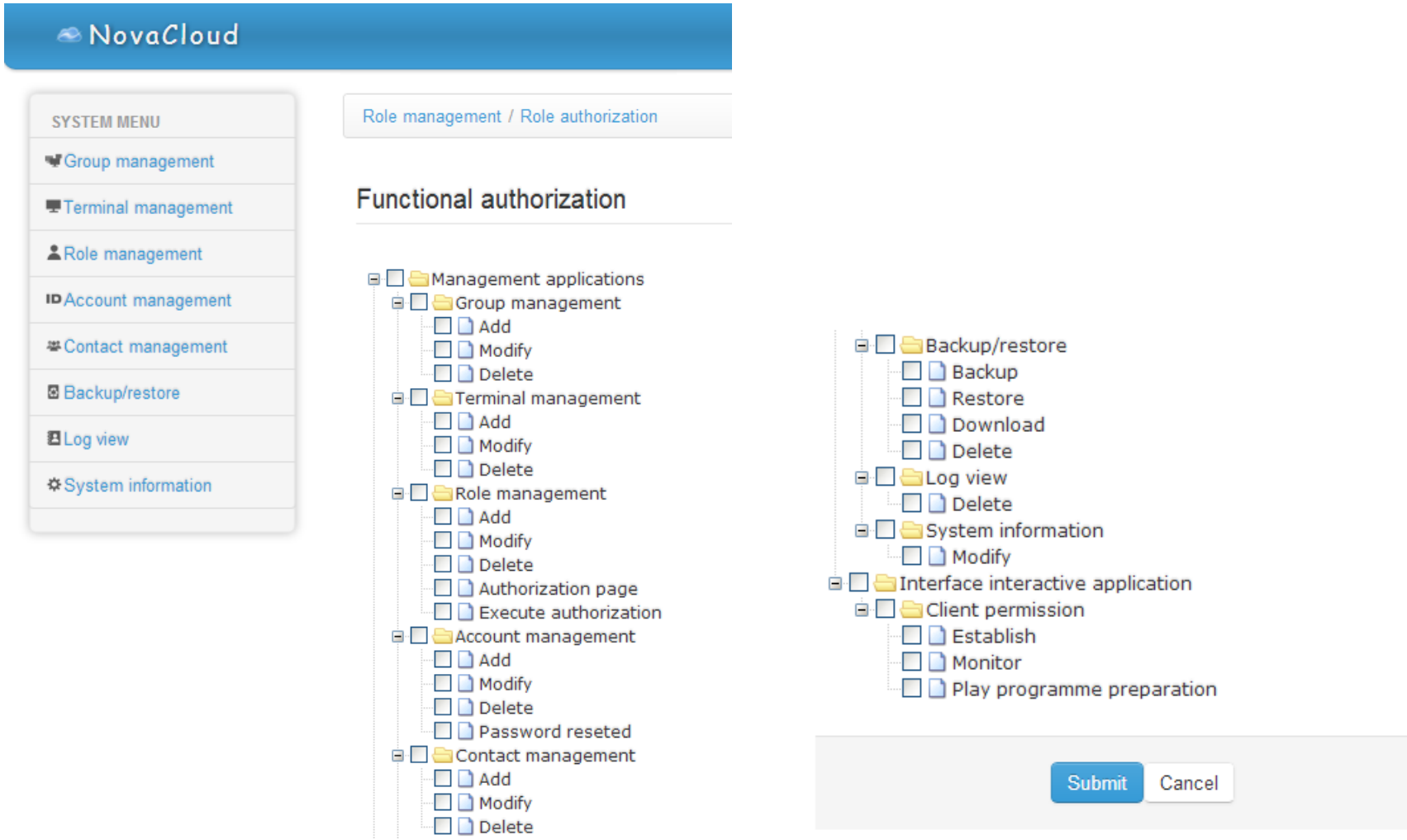


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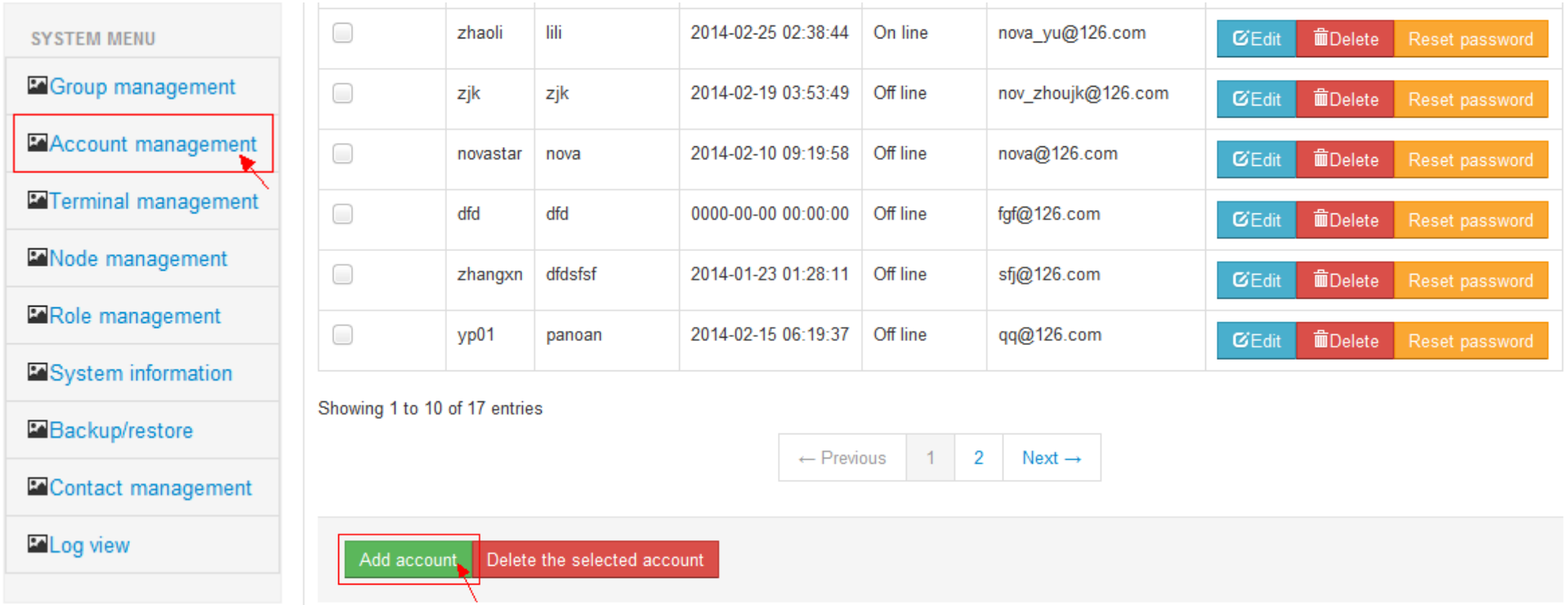
## 3.4 Account management

MC-go is the joint name of system operation and maintenance business software tools. To register the account, it is available to separately specify the role corresponding to each account and the group scope can be managed.

Adding a management center account can be completed in four steps: setting the account name, setting the password, setting the role, and ticking the group scope.


SYSTEM MENU
Group management
Account management
Terminal management
Node management
Role management
System information
Backup/restore
Contact management
Log view
zhaoli lili 2014-02-25 02:38:44 On line nova_yu@126.com Edit Delete Reset password
zjk zjk 2014-02-19 03:53:49 Off line nov_zhoujk@126.com Edit Delete Reset password
novastar nova 2014-02-10 09:19:58 Off line nova@126.com Edit Delete Reset password
dfd dfd 0000-00-00 00:00:00 Off line fgf@126.com Edit Delete Reset password
zhangxn dfdsfsf 2014-01-23 01:28:11 Off line sfj@126.com Edit Delete Reset password
yp01 panoan 2014-02-15 06:19:37 Off line qq@126.com Edit Delete Reset password
Showing 1 to 10 of 17 entries
← Previous 1 2 Next →
Add account
Delete the selected account

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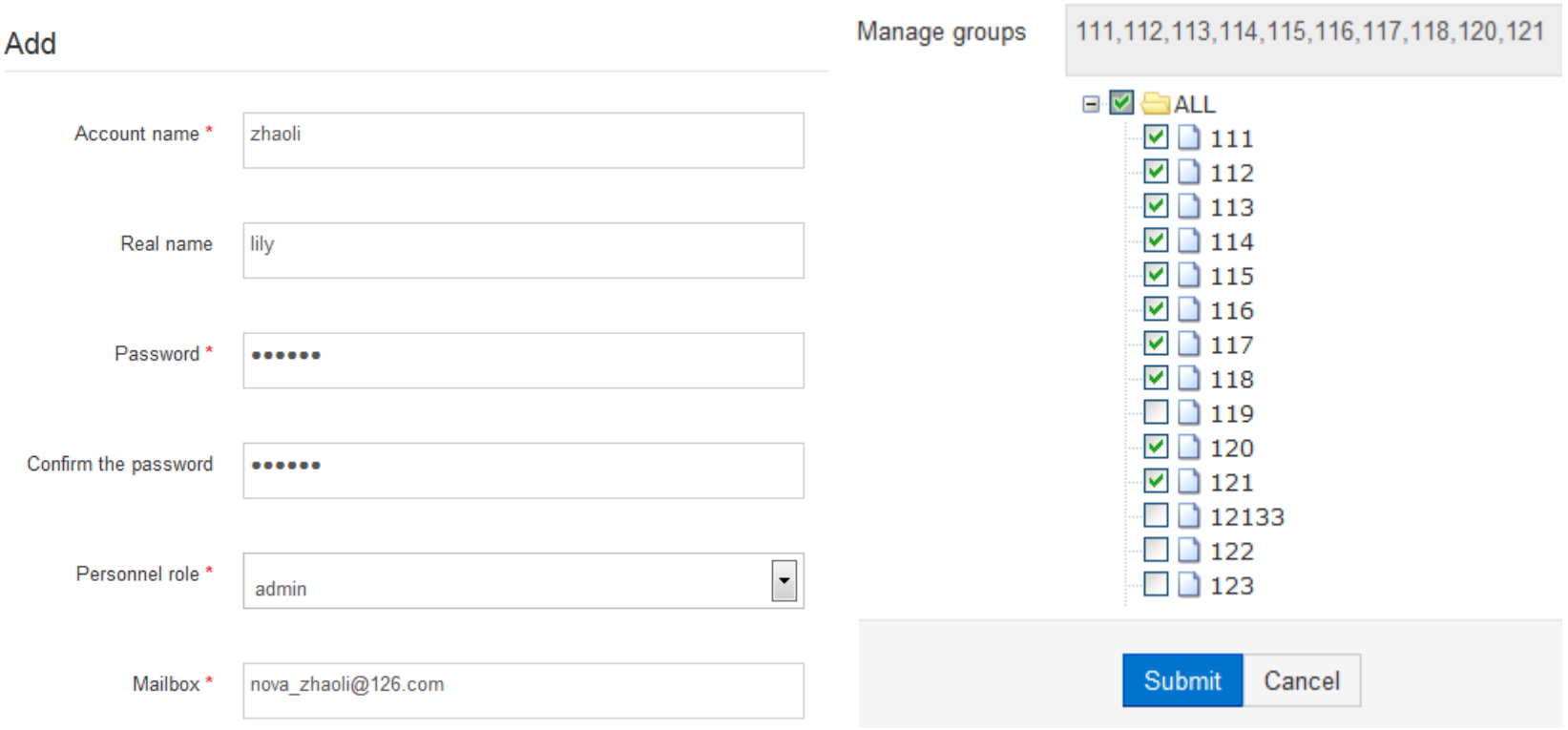


Nova Cloud can redistribute role and resize the scope of authority by editing accounts of MC-go.

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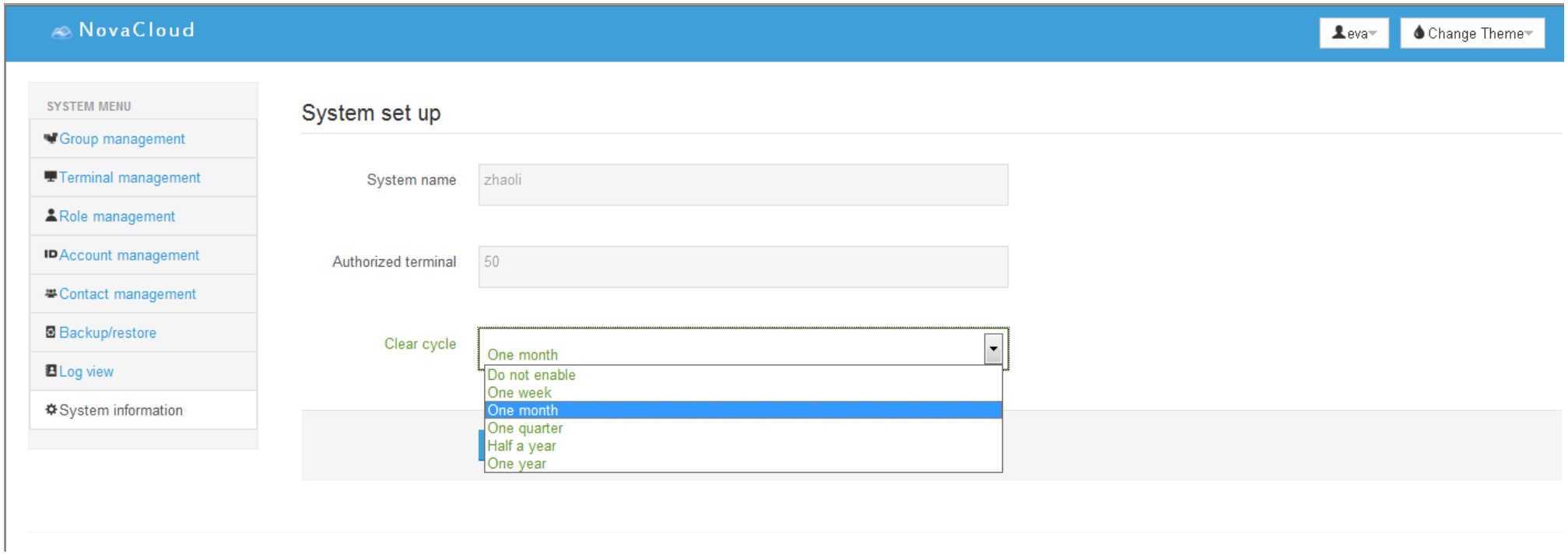
## 3.5 System information

In order to reduce the burden on the server, a clear cycle (one week, one month, one quarter, half a year or one year) can be set to regularly clear away the media on the server which has expired and has not been used by any terminal.

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## 3.6 Backup/Restore

Registration Data is the key data of the Nova Cloud. Nova Cloud system can not run without registration data. It must be possible to quickly restore registration data after the system encounters the great disaster, and then the system will be able to re-enter the running. Nova Cloud can backup register data, we recommend you regularly backing up the latest system register data for emergency needs.

1) Backup

Click "backup", and then under the data restore there shall be one more file, and this file contains the current registered data of the system and can be downloaded to the local computer to be stored.

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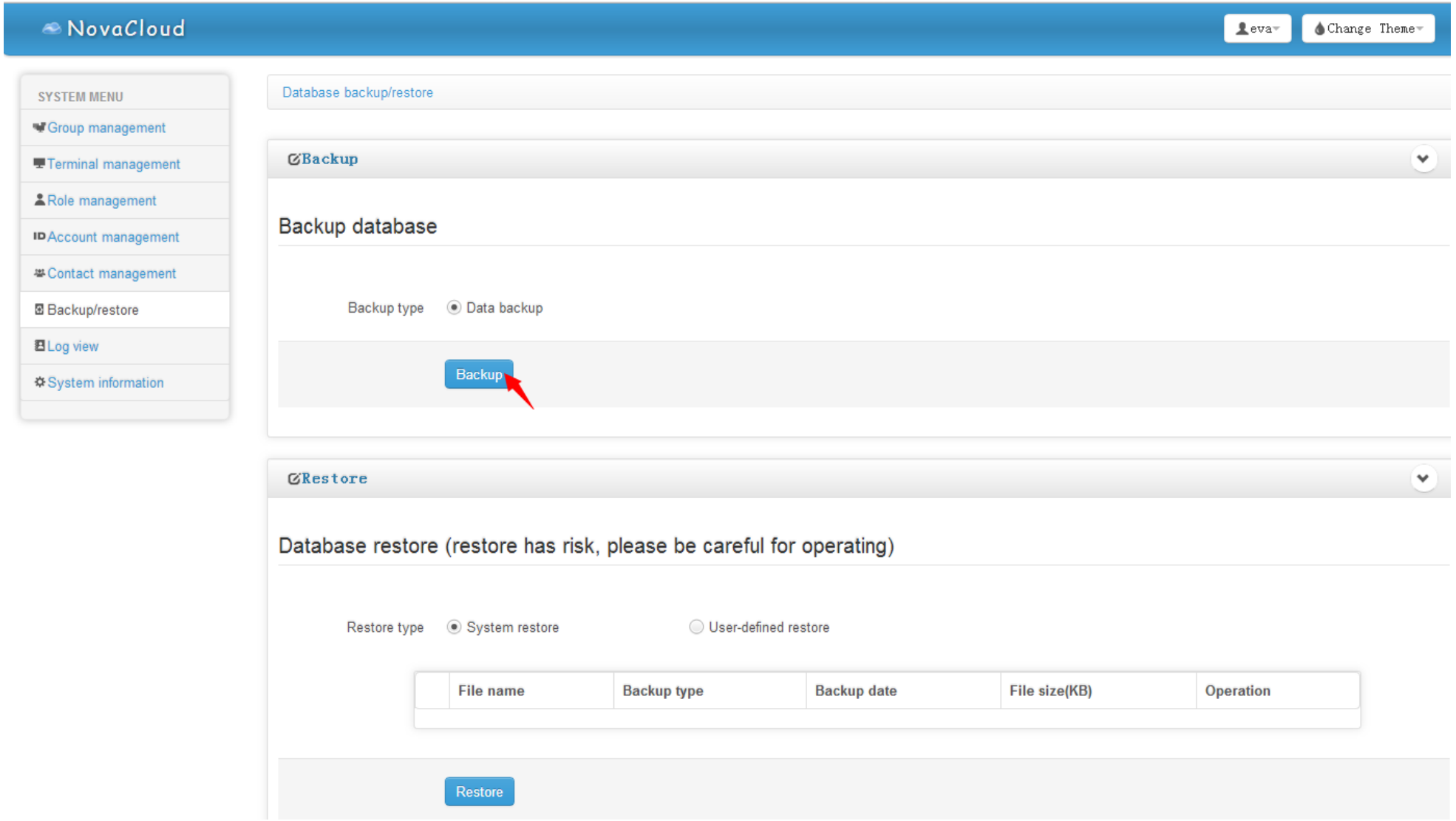


2) Data restore

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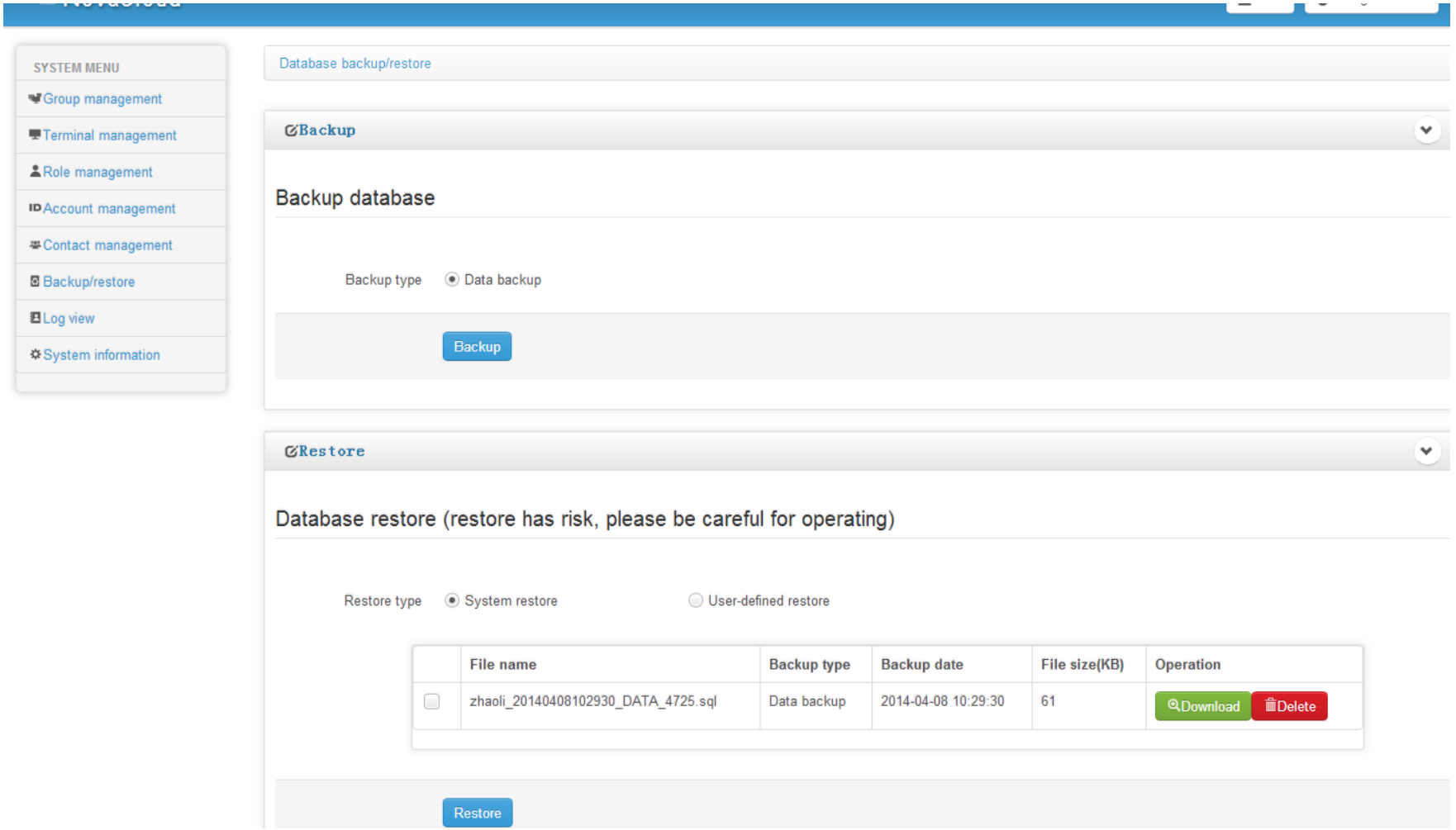
a) Method 1：check “system restore”，and then check one backup file, and then click “restore”.

b) Method 2：check “user-defined restore”，and then click “click to upload”，to upload the previously downloaded backup file.

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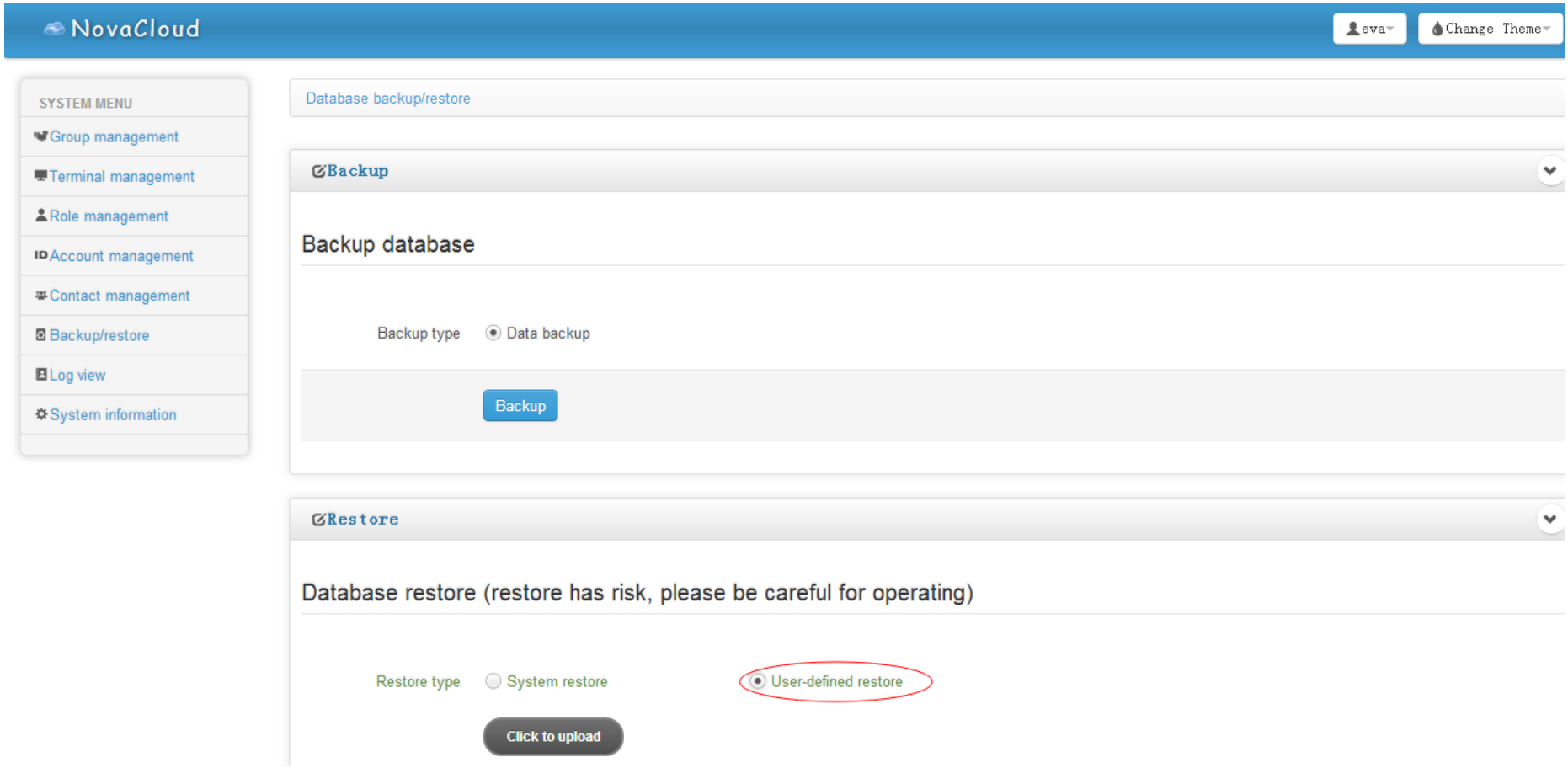


## 3.7 Contact management

Each group corresponds to one contact, and when the terminals in the group are abnormal, the system will notify the contacts by mobile phone or email at the first time.

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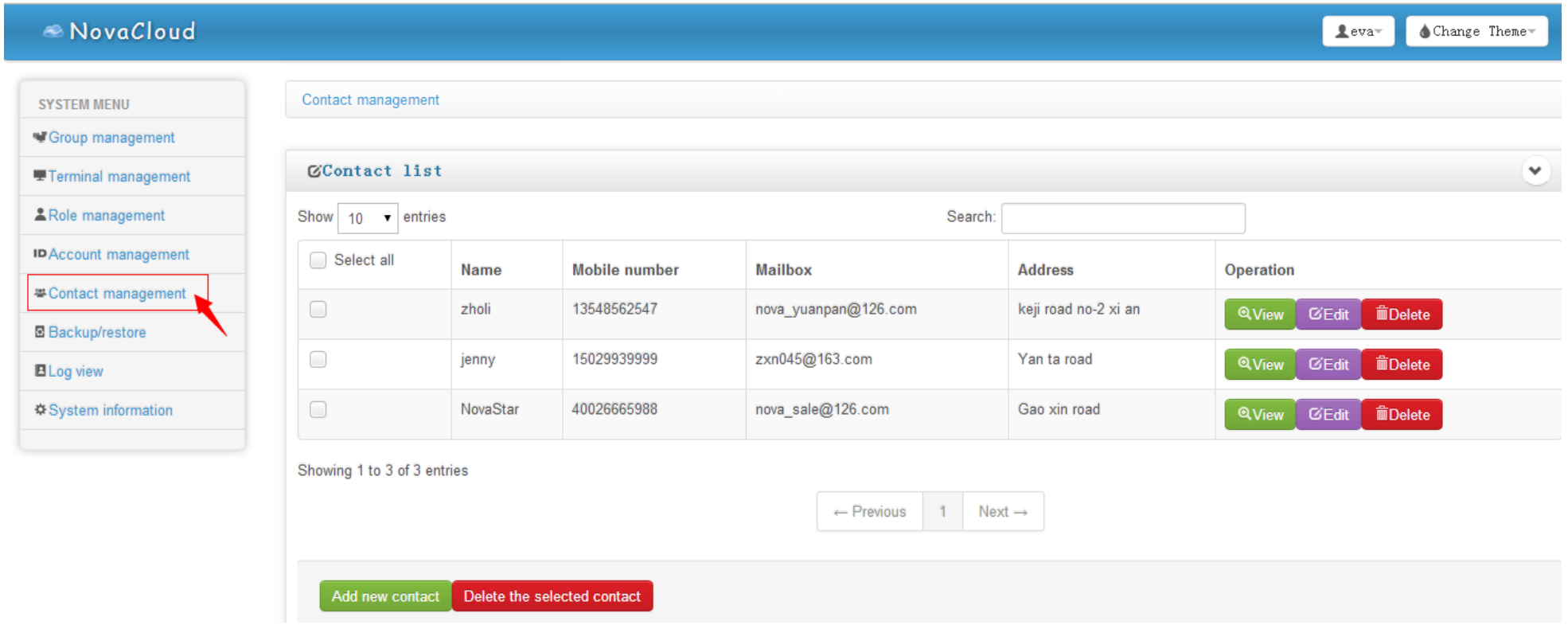


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# 4 Terminal software configuration

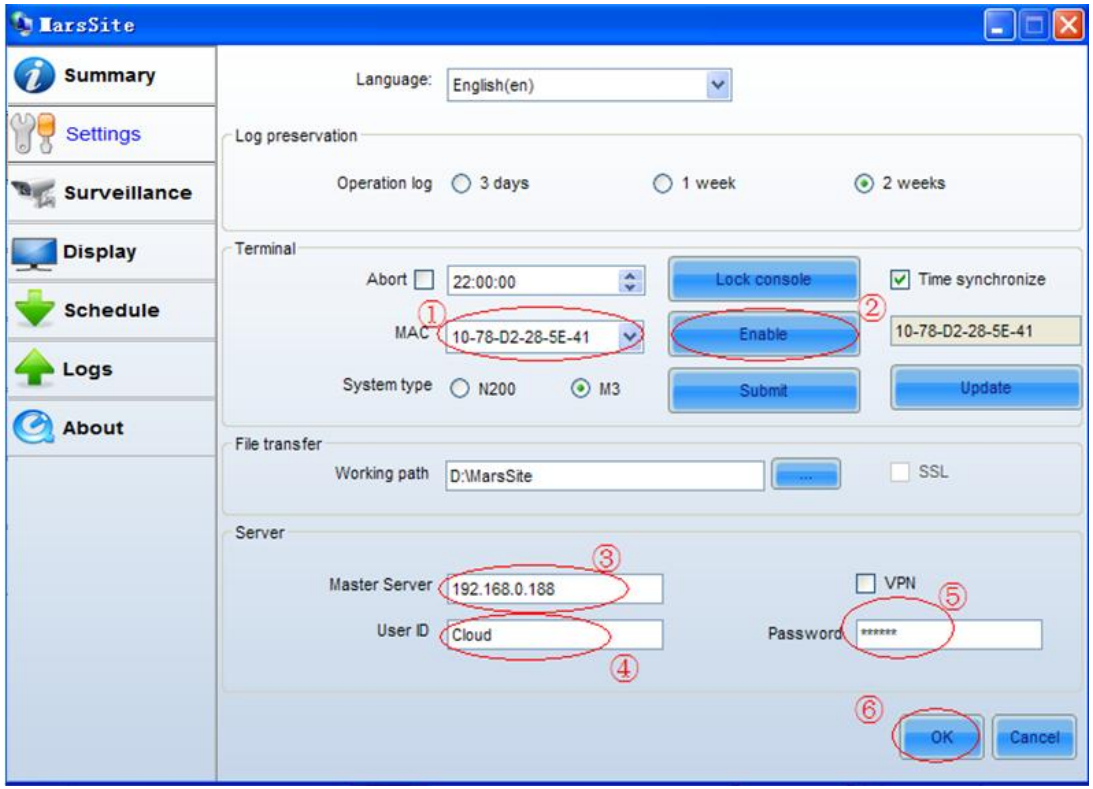
## 4.1 Synchronization Terminal

Synchronization terminal settings include three major parts: terminal settings, display setting as well as picture monitoring.

### 4.1.1 Synchronization terminal (MarsSite)setting

Run MarsSite on the terminal computer, and enter the terminal setting page to set up four important options:

1) Enable MAC (select the MAC address being used on the computer and already registered on the server);
2) Fill out the master server IP (see shipping parameters);
3) Fill out your own user ID (see shipping parameters);
4) Fill out the terminal password (password set up while registering terminal).




### 4.1.2 Picture monitoring

There are two ways to monitor the pictures for Nova Cloud:

- If the user site has not been equipped with a camera, it is available to obtain the control computer desktop screenshot capture to indirectly know the playing situation of the display through screenshot capture, and as long as the monitor is working normally, the playing contents shall be same as it is seen on the desktop;

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- If the site is equipped with a USB camera or a network camera (the camera is connected into one local area network together with control computer), it is allowed to use the camera to take photos of the site.

Tips: it is required to set whether the terminal shall enable or disable the desktop screenshot capture and camera at the client terminal（MC-go）, and set the shooting period, and then send the command to the terminal; and after the command has been successfully sent, the terminal shall automatically shoot screen or pictures according to the period, and upload the pictures to the server.

**1) Desktop snapshot settings**

Desktop snapshot settings include to set camera coordinates and photographs region, in order to be consistent and camera resolution, desktop screenshots default resolution is set to 1280X720, but it is best to set consistent with the display of the mapped area, usually this can save storage space.

Desktop snapshot settings are as shown below:

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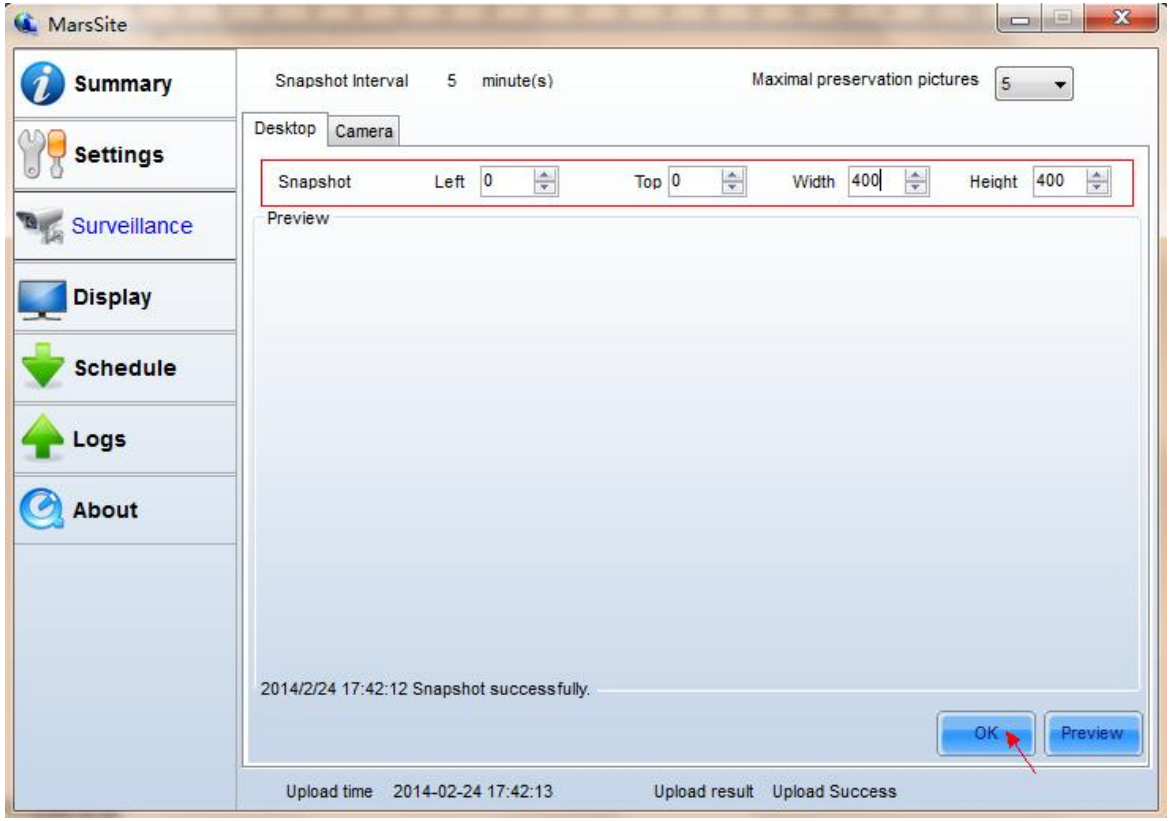


**2) Camera setting**

The system supports shooting surveillance through network camera, and please configure the network camera according to the network camera manufacturer's instructions, and form LAN through the switch or other network equipment.

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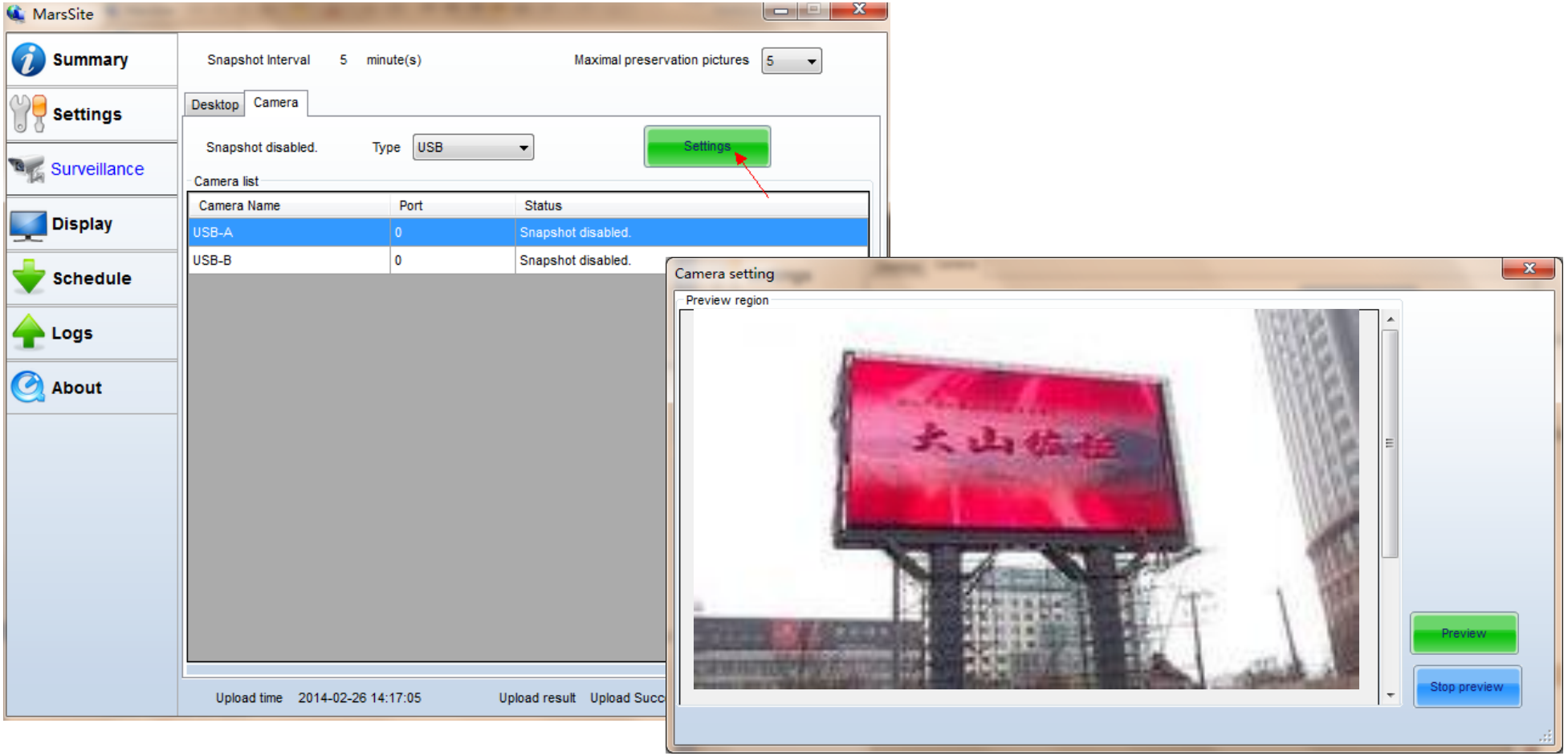
According to the practical conditions, select the camera type（USB type or YiView type(network camera)），and while using the network camera, it is required to configure the camera information.

**USB camera：**

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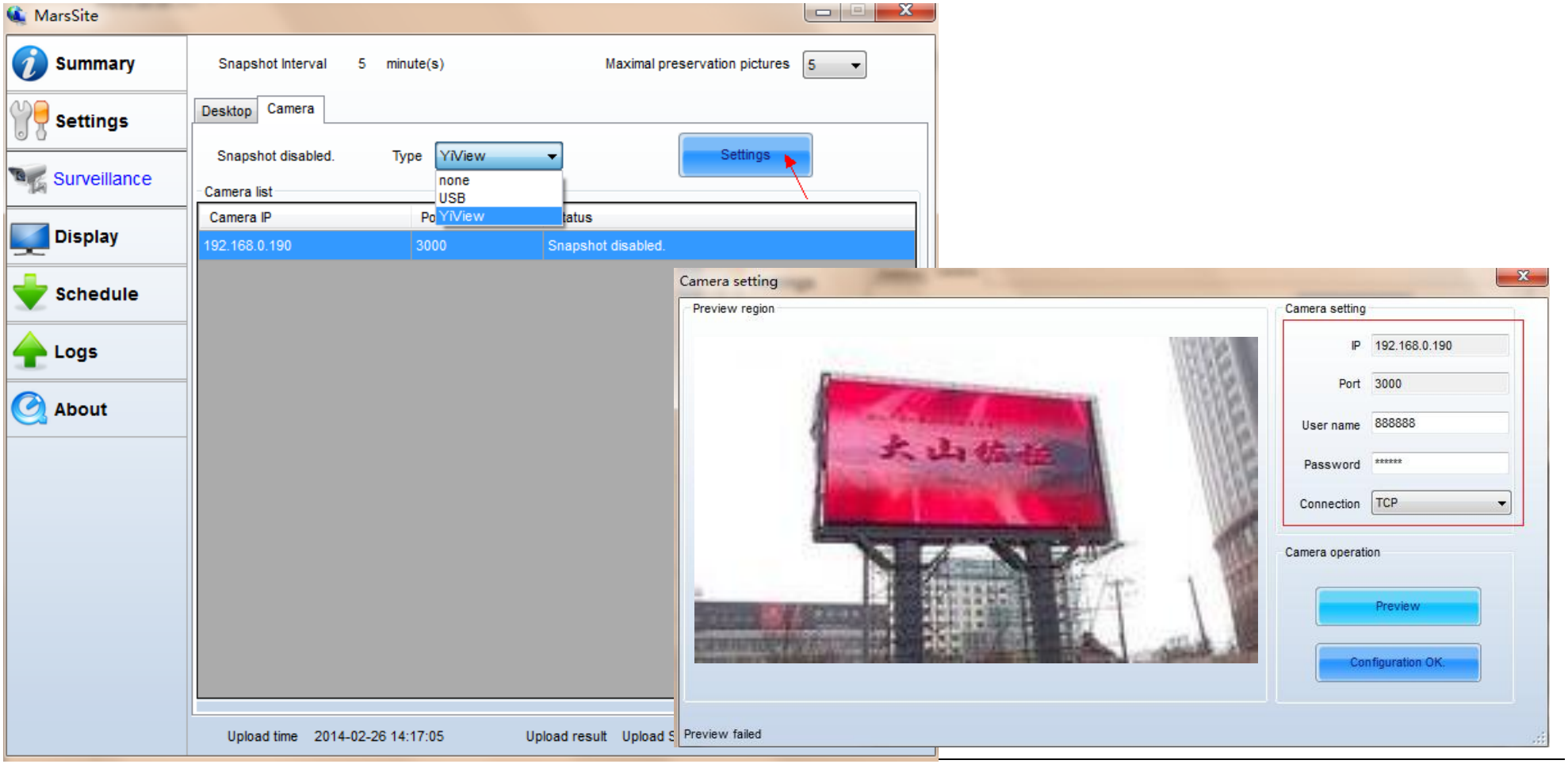
**IP camera：**

a) Set the user name and connection manner of camera. The user name must be specified, and while viewing the picture surveillance in the management center, the pictures shall be displayed according to the user names by pages.

b) Start preview, and after the preview successfully confirms that the camera works normally, click the button “setting completed”.

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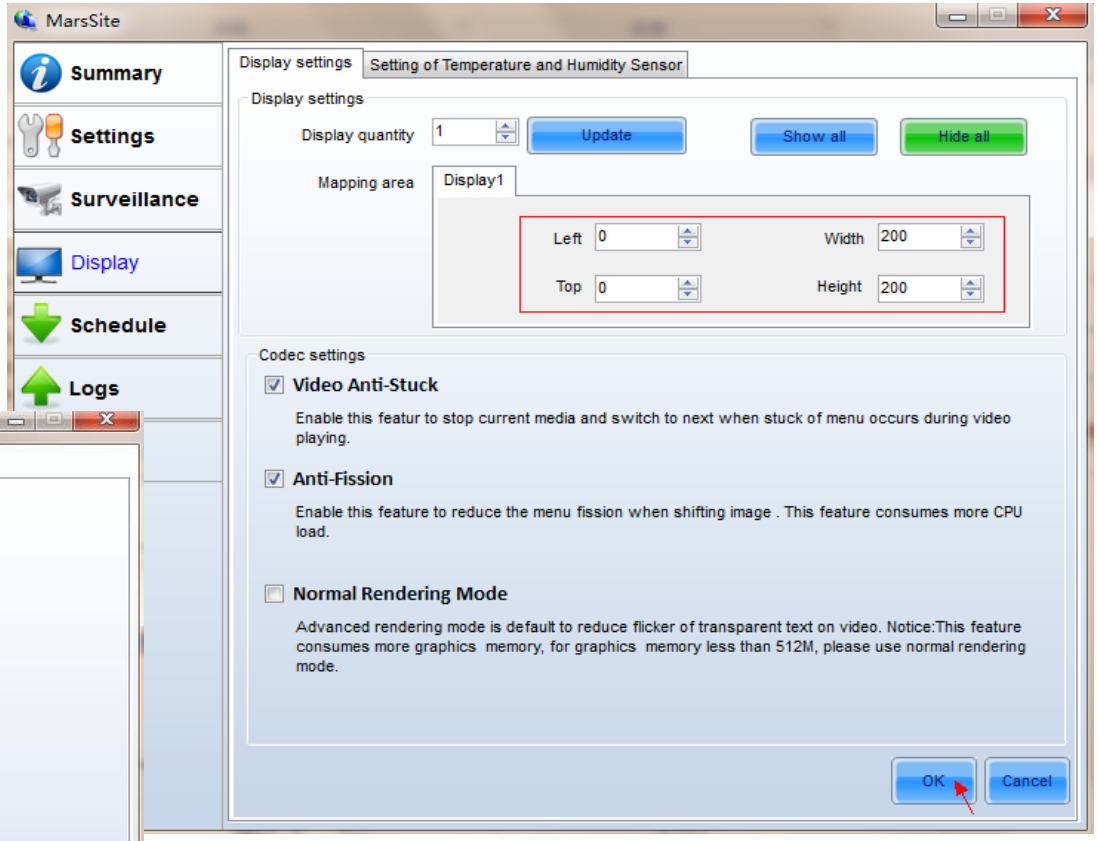
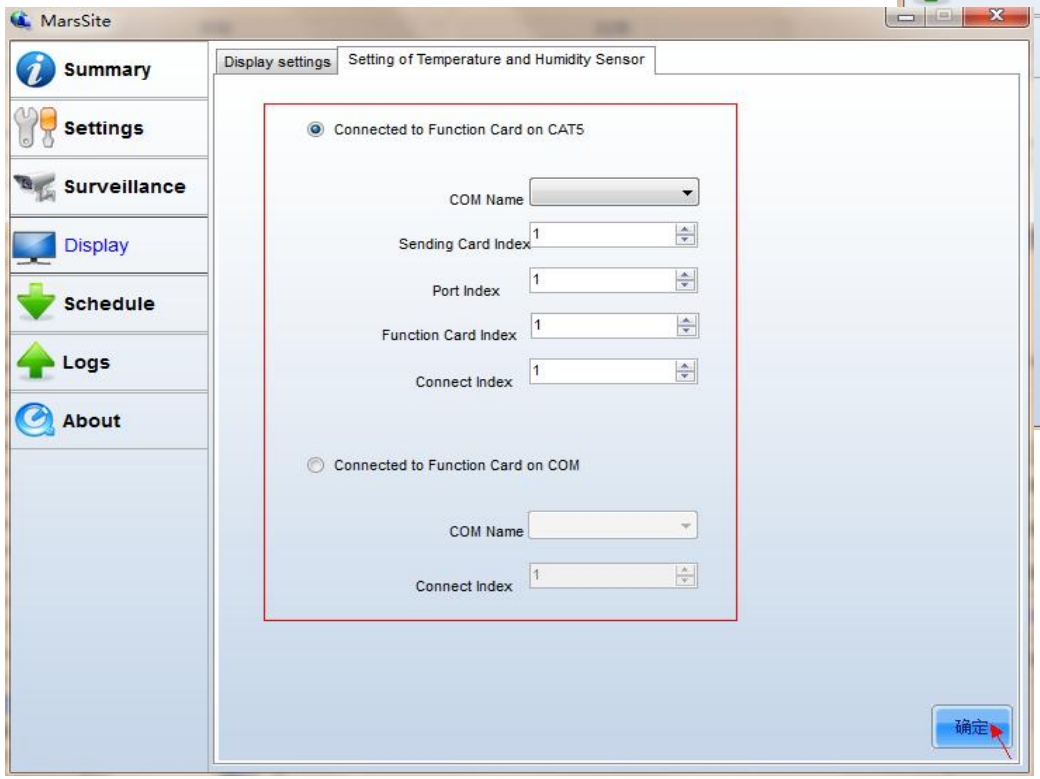
### 4.1.3 Display

The terminal, in playing the schedules, needs to determine based on the position and size of the display size, so that it can be correctly displayed on the LED display.

While terminal is connected to a temperature and humidity probe, it is required to configure the relevant information here .

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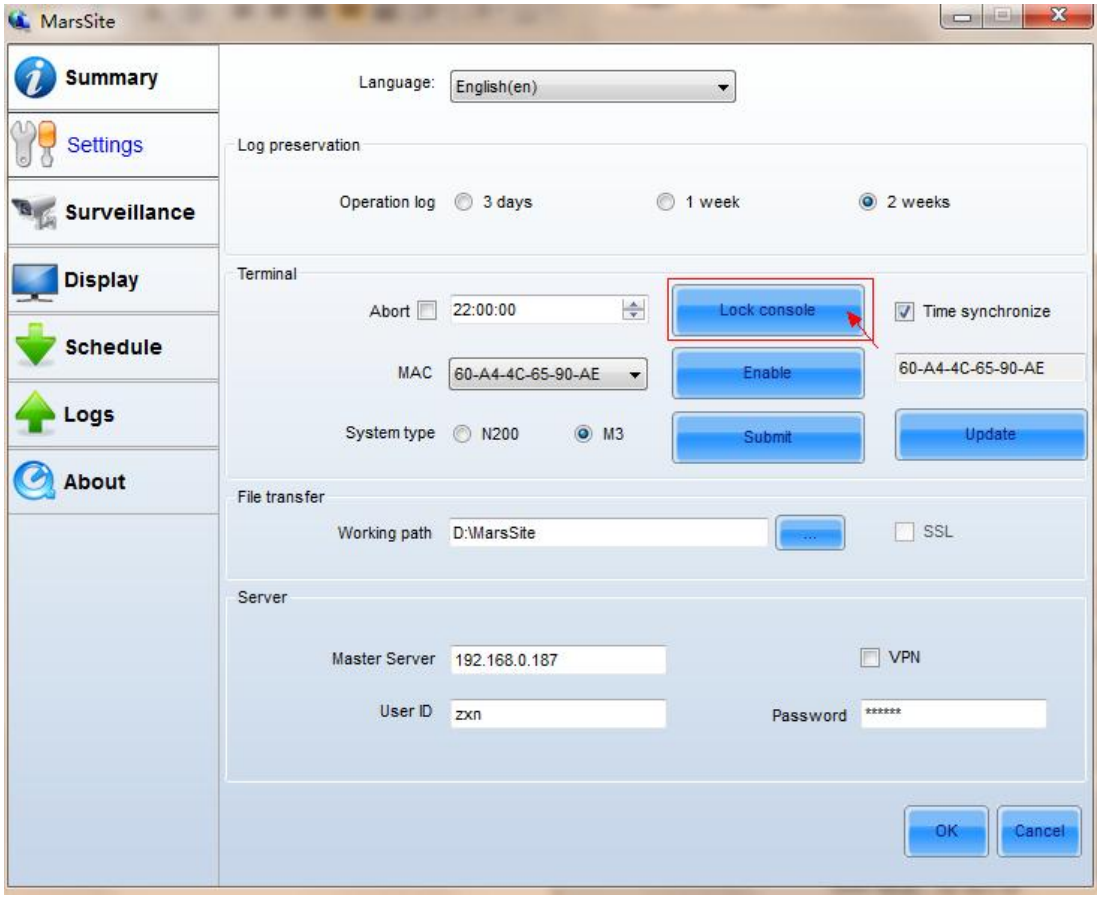
## 4.1.4 Terminal lock and unlock

The terminal is the autonomous system, in order to prevent the illegal operation of computer terminal, the terminal can be locked in the terminal local or MC-go; the password in the local input terminal can be unlocked, MC-go can also unlock the terminal when sending commands.

After the terminal is locked, the local keyboard and mouse and U disk function is disabled, mouse and keyboard operation can not be made, and one can not use the U disk, either.




1) **Local lockdown**

Terminal software -> 【Setting】page, click on the 【Lock Console】, you can lock the terminal IPC.

**2) Local unlocking**

Click on "Esc" to popup a window, and then enter the terminal password and click "OK". At this time, the terminal is

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unlocked.

### 3) Program locking

To unlock the terminal through MC-go, it is needed to use the account with maintenance authority to login MC-go for the corresponding operation.

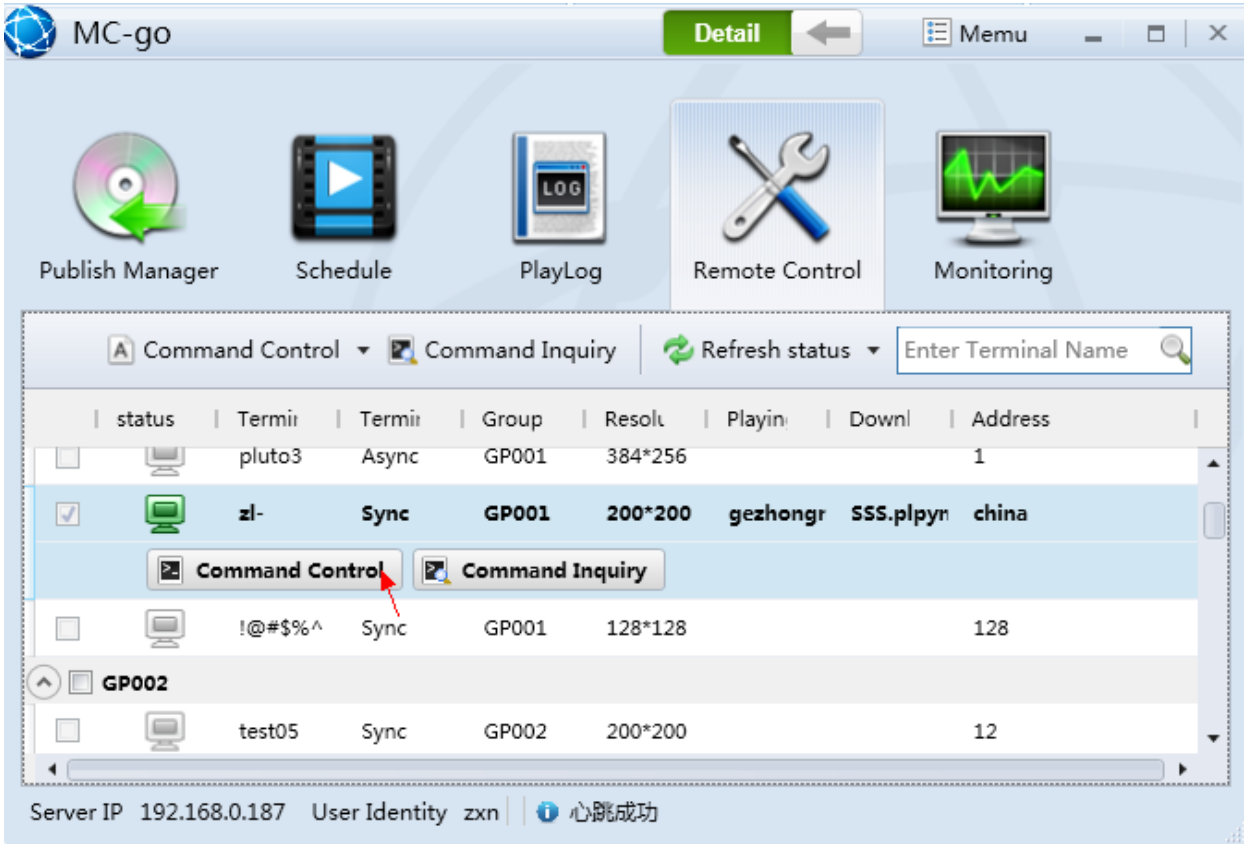
The steps are as follows:

a) Log in MC-go;

b) Click "control" button to open terminal control sub-software;

c) Select the terminal to be locked, and then click on the 【command Control】 to open a command control settings window;

d) Click " Terminal lock " button on the left to switch to terminal locking setting command window;



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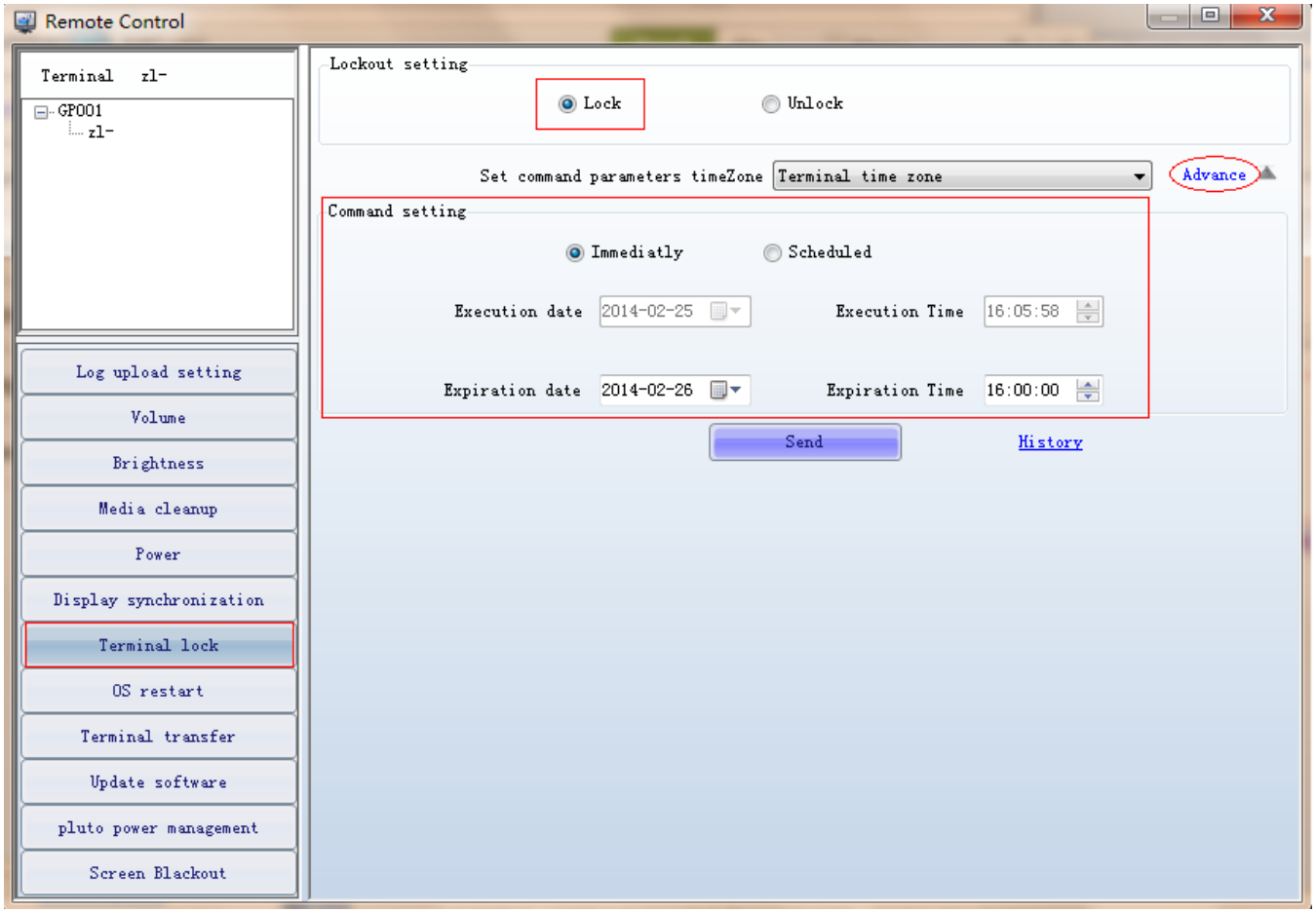
e) Set command parameters: set lock as "lock", and set all the other required parameters.

f) Click "Send" button. To be effective for the all selected terminals in step c), Others are similar.

You will see that the terminal is locked down via roughly one or two heartbeat cycle .

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### 4) Program unlocking

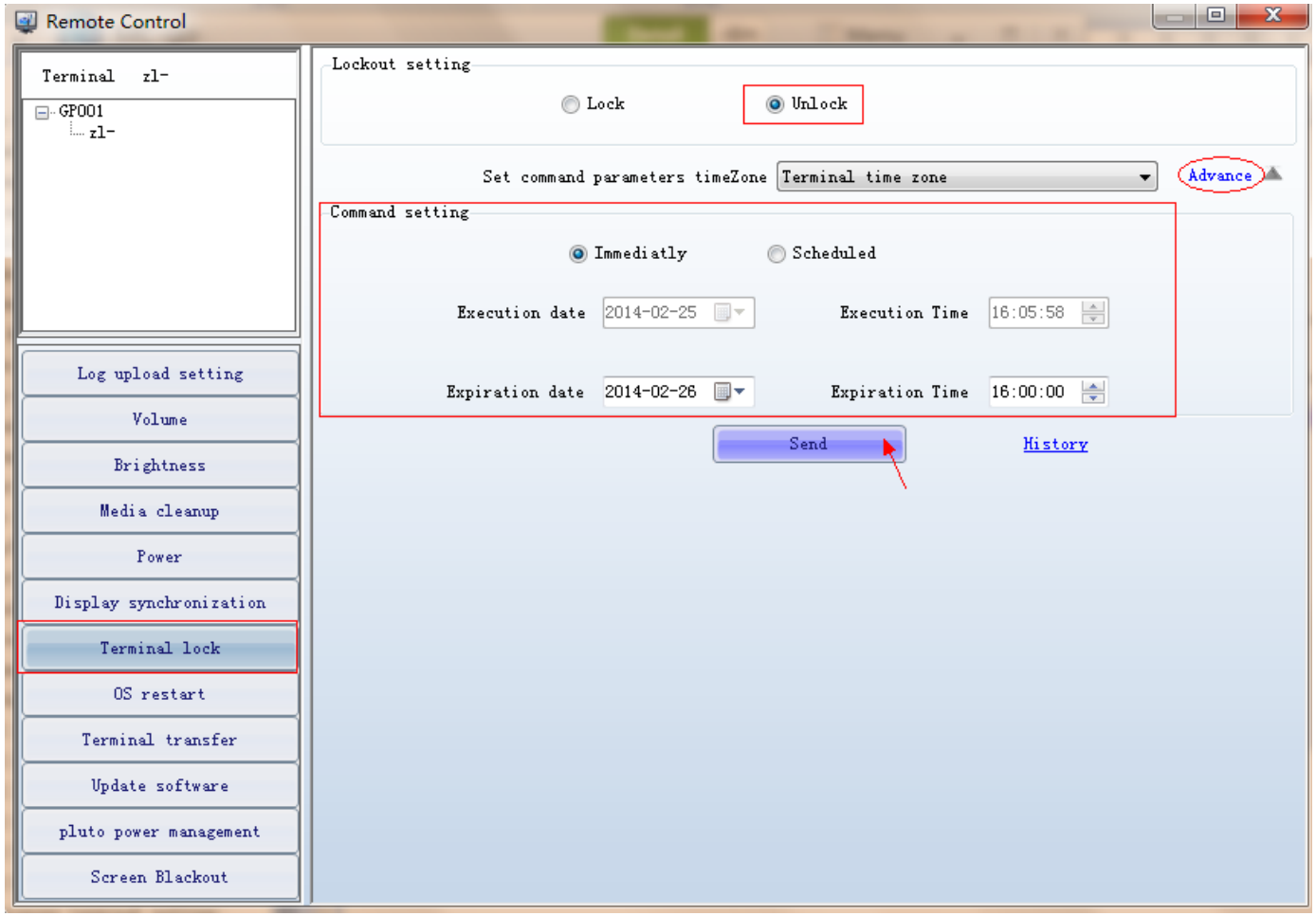
Using the MC-go for unlocking is completely similar to the terminal lock setting, it is required to use the account with maintenance authority to login MC-go for conducting the corresponding operation, and the specific operation is as follows:

a) Log in the MC-go .

b) Click "control" button to open terminal control sub-software;

c) Select the terminal to be unlocked, and then click on the 【command Control】 to open a command control settings window;

d) Click " Terminal lock " button on the left to switch to terminal

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locking setting command window;

e) Set lock to "unlock", and set the other command parameters.

f) Click "Send" button. To be effective for the all selected terminals in step c), Others are similar.

The terminal will be unlocked automatically after about one or two heartbeat cycles.

To use the MC-go for locking and unlocking, make sure the MC-go can normally communicate with the server, and server is locked with terminal.

### 4.1.5 Other Options

#### 4.1.5.1 Terminal information

Terminal information mainly displays the current status information of the terminal such as MAC address, and the connection state of the controller, the reading of controller result, the heartbeat cycle, last heartbeat time and the results, as shown below.

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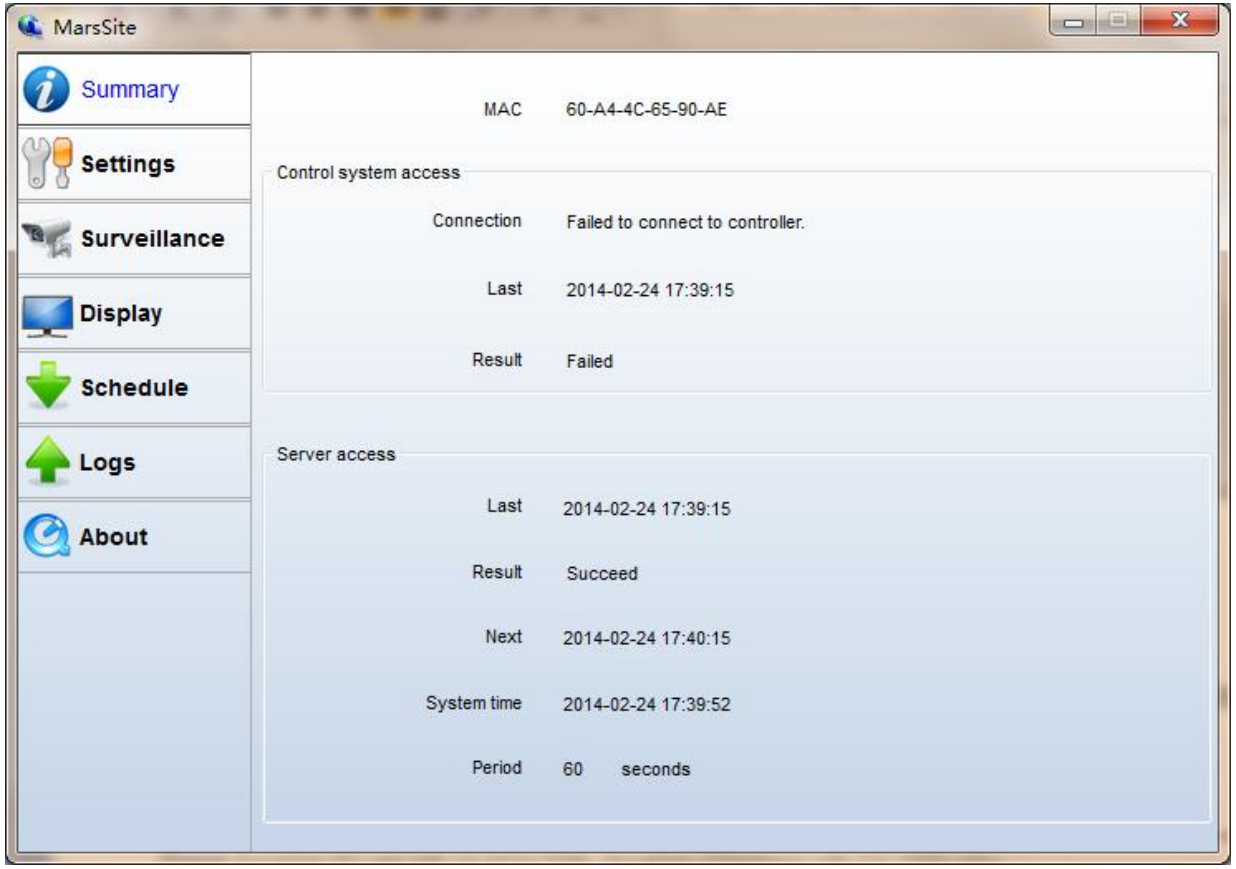


### 4.1.5.2 Schedule

**1) Download Schedule**

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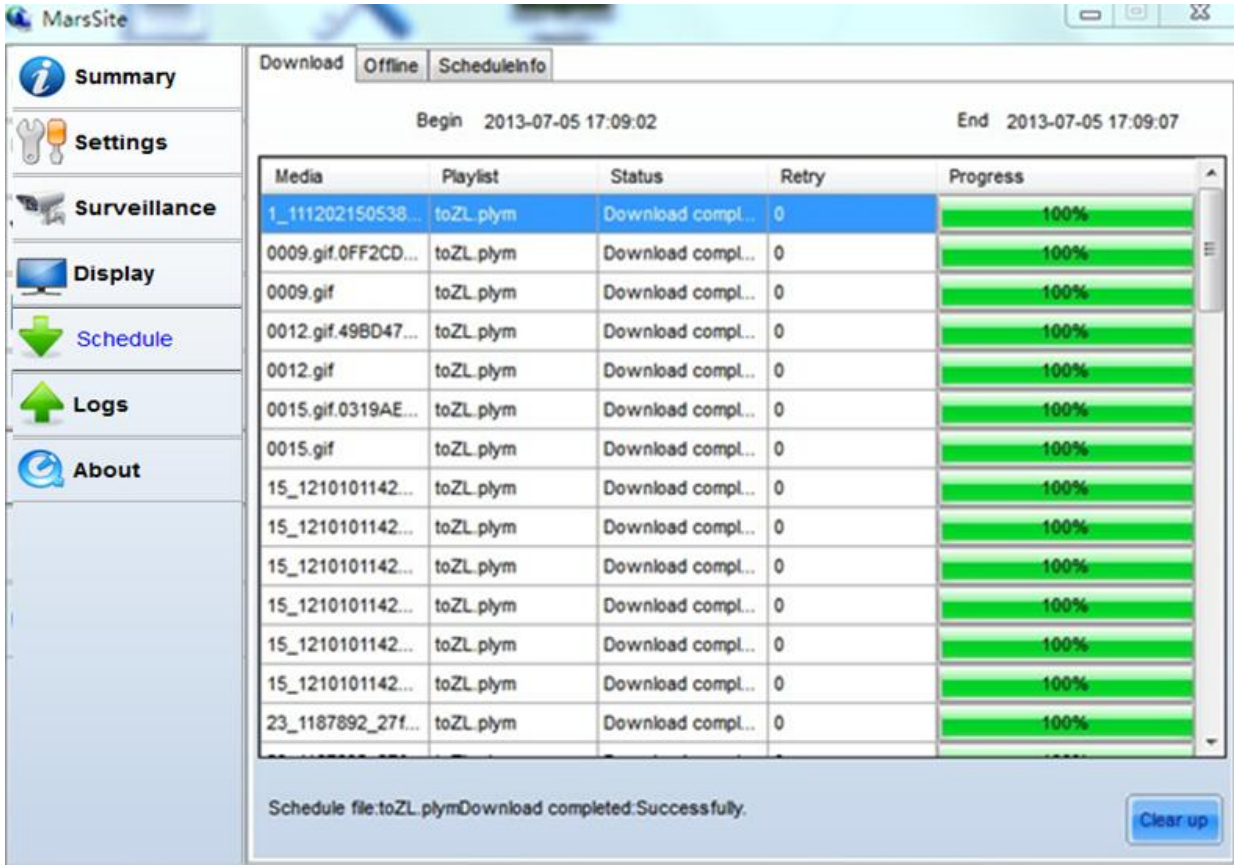
Nova Cloud terminal downloads schedule from the server. The terminal begins to download after receiving the command and schedule downloading, and can view the progress and results of downloading as shown in the figure below:




**2) Offline Schedule**



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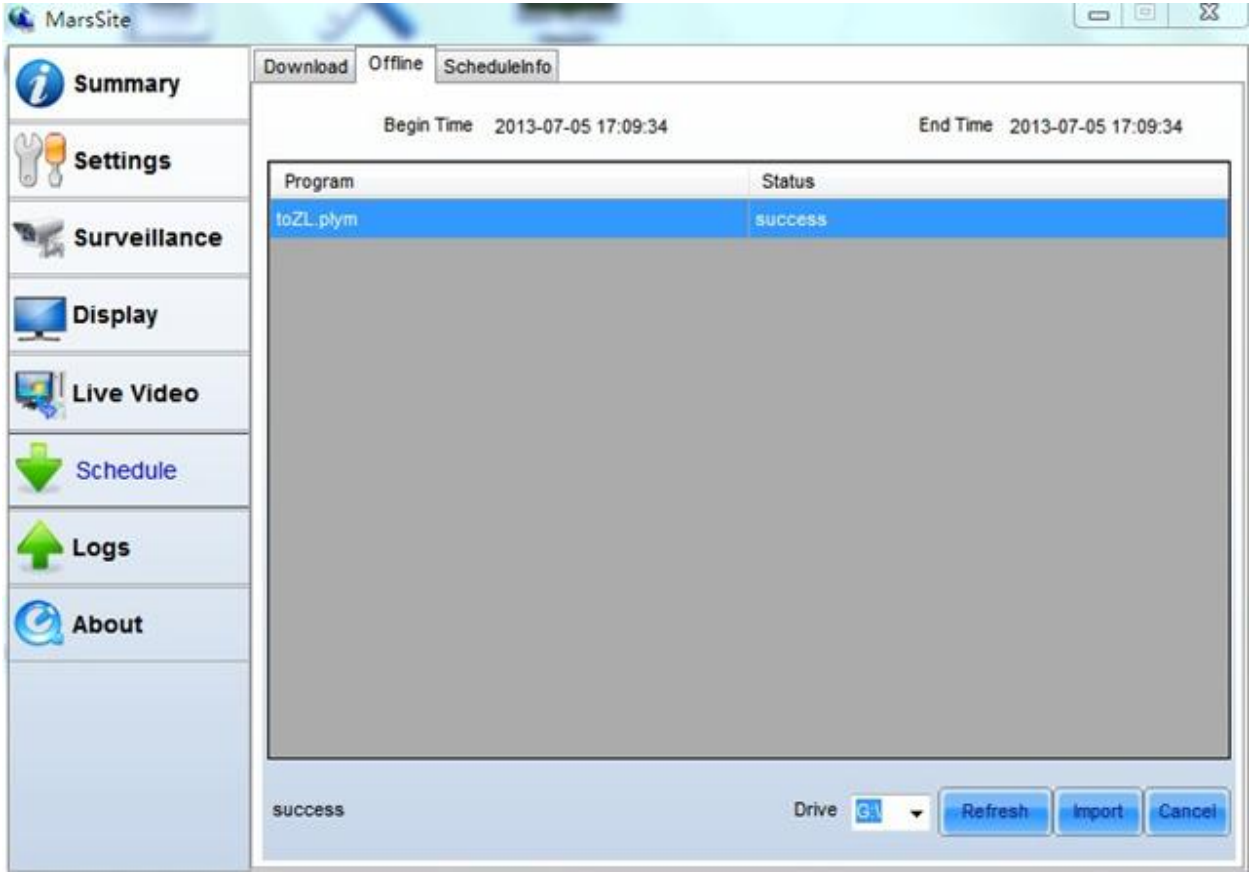
If the play schedule is locally saved, it is available to import manually as per the following method：

Refresh the drive letter, select the drive letter for storing offline play schedule, and then click [import], and in this way, the software shall automatically import the offline schedule corresponding to the terminal and display it in the list, as shown in the following figure.

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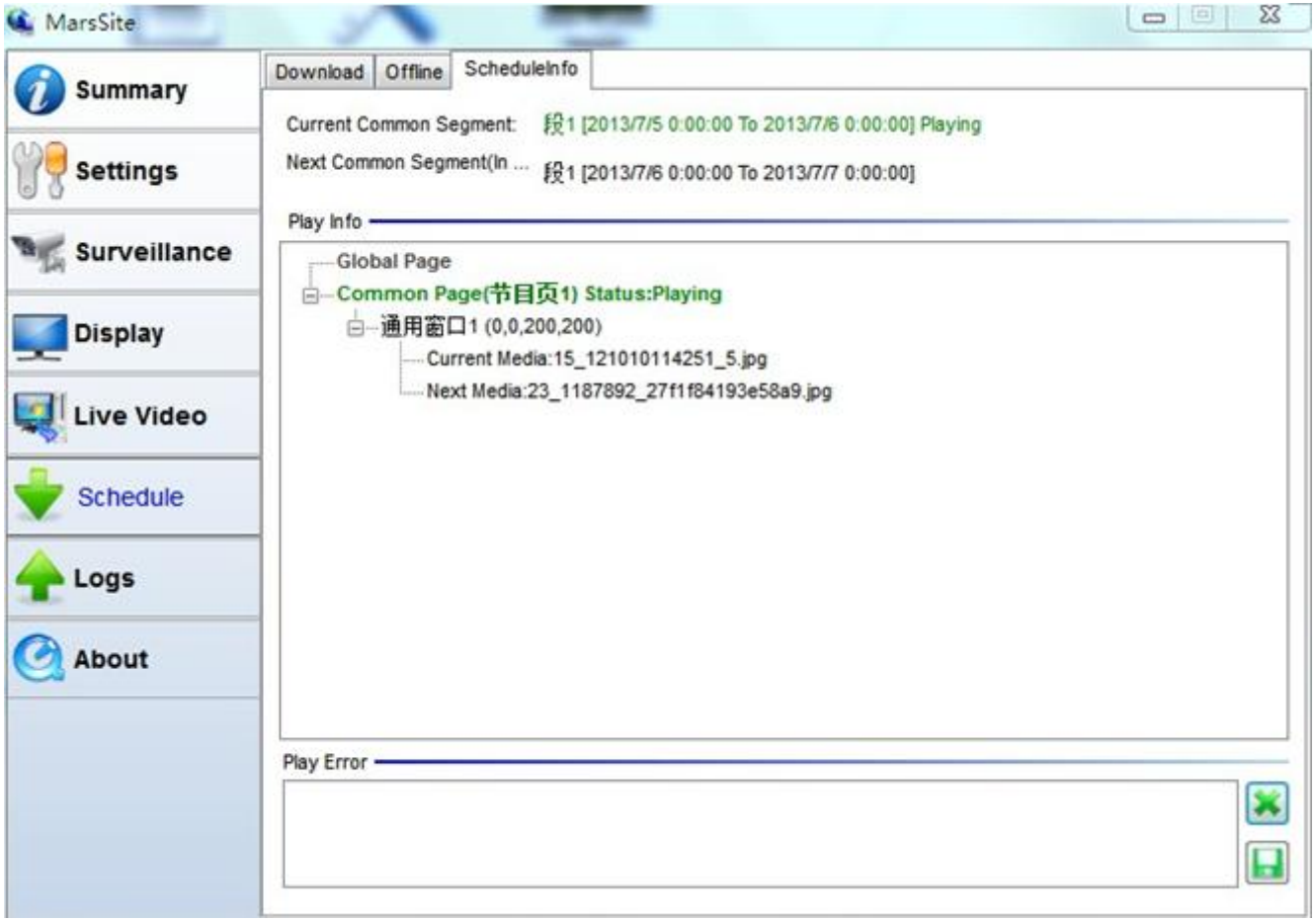
### 3) schedule information

Check the real-time playback information and faults.

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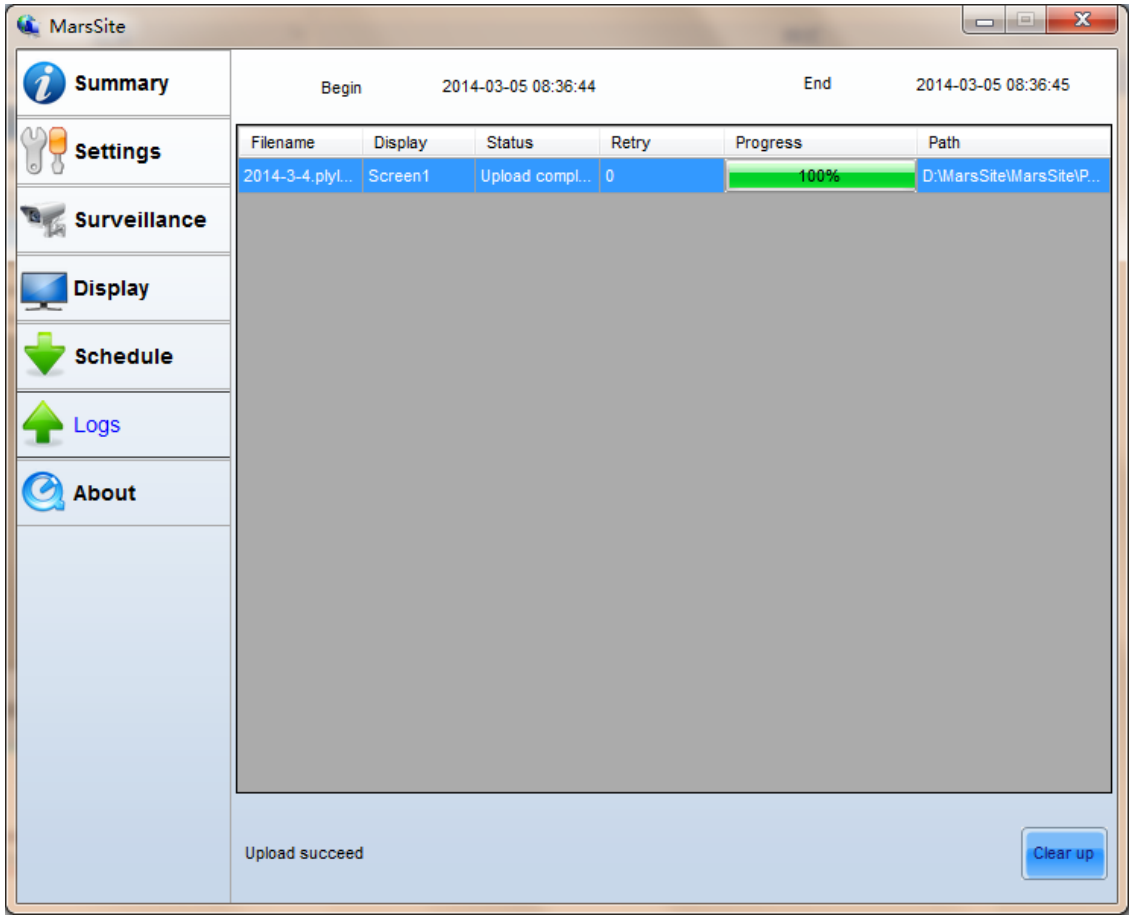
### 4.1.5.3 Log upload state

The MC-go commands terminals to upload logs to be played. Terminals can display the progress and results in the uploading of current logs to server. See the figure below:

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## 4.2 Asynchronous terminal setting

Run NovaPluto-LCT on the management center computer, and set up network parameters of asynchronous terminal according to the following steps.

Explanation of key parameters:

1) Select management platform "MC-go";

2) Fill out the master server IP (see shipping parameters);

3) Fill out your own user ID (see shipping parameters);

4) Fill out the terminal password (password set up while registering terminal).

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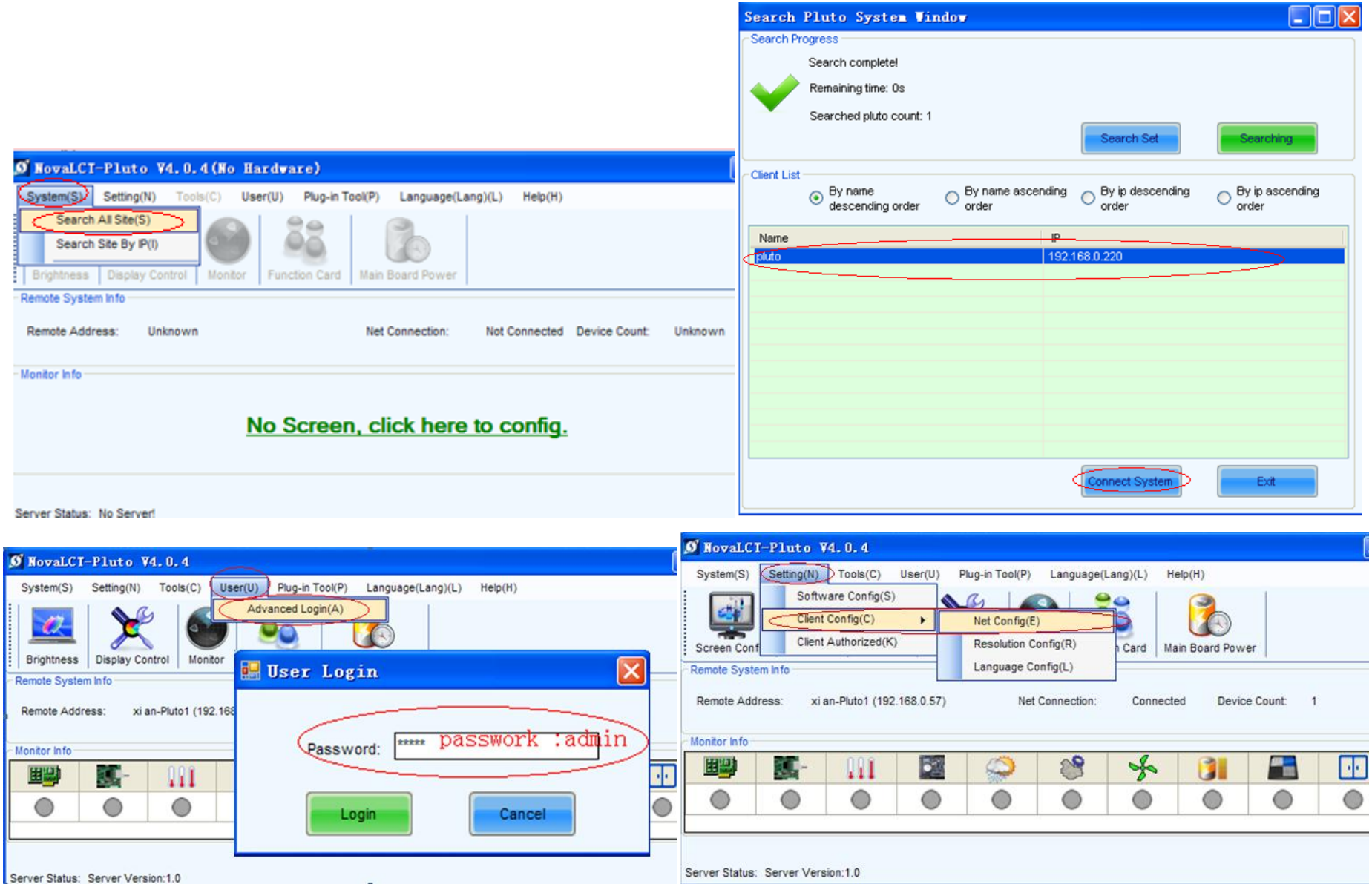


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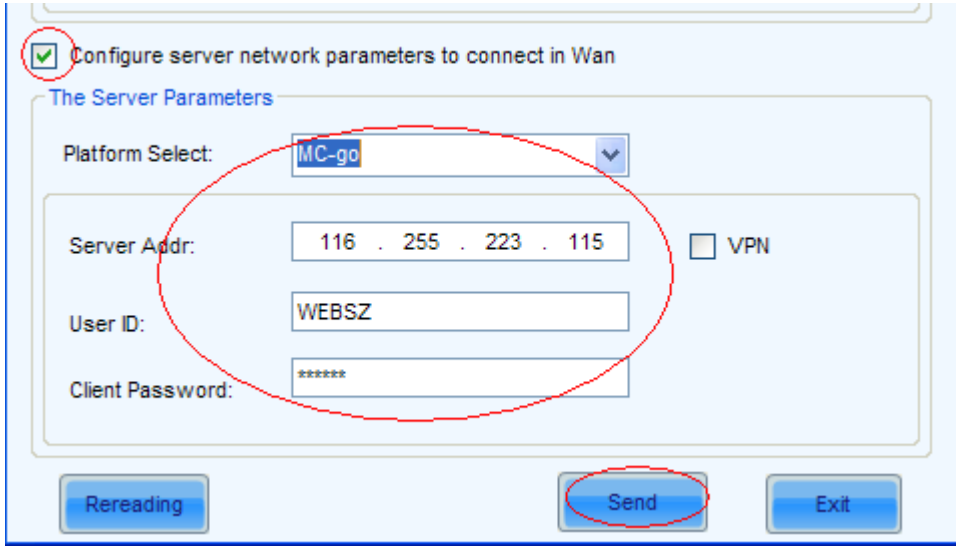


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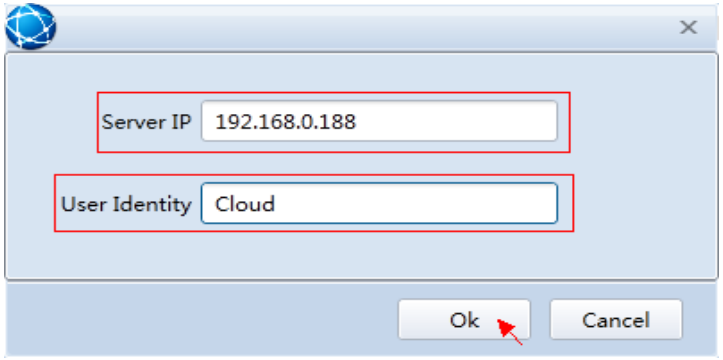
# 5 Client operation(MC-go)

The operation of the program includes creation, publishing, log management, picture monitoring, system monitoring and terminal control.

## 5.1 Login MC-go

1) Run management center software, click on the button in the login interface, make sure if the server IP is correct, and if it is correct, click [OK].




2) Enter the registered MC-go account and corresponding password，click [Login] to enter the home page of management center, and click to enter the operation interface of management center.

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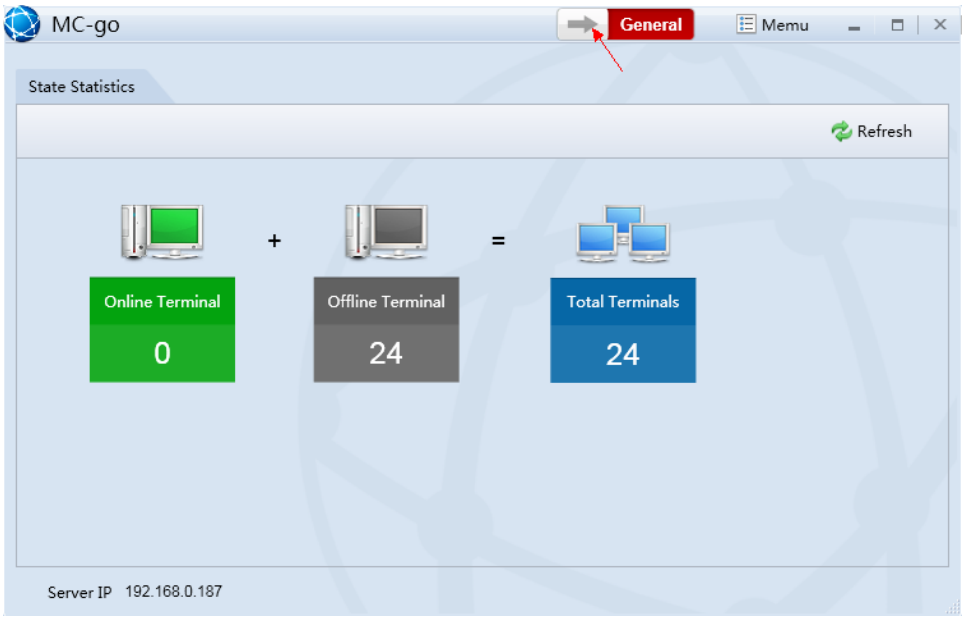
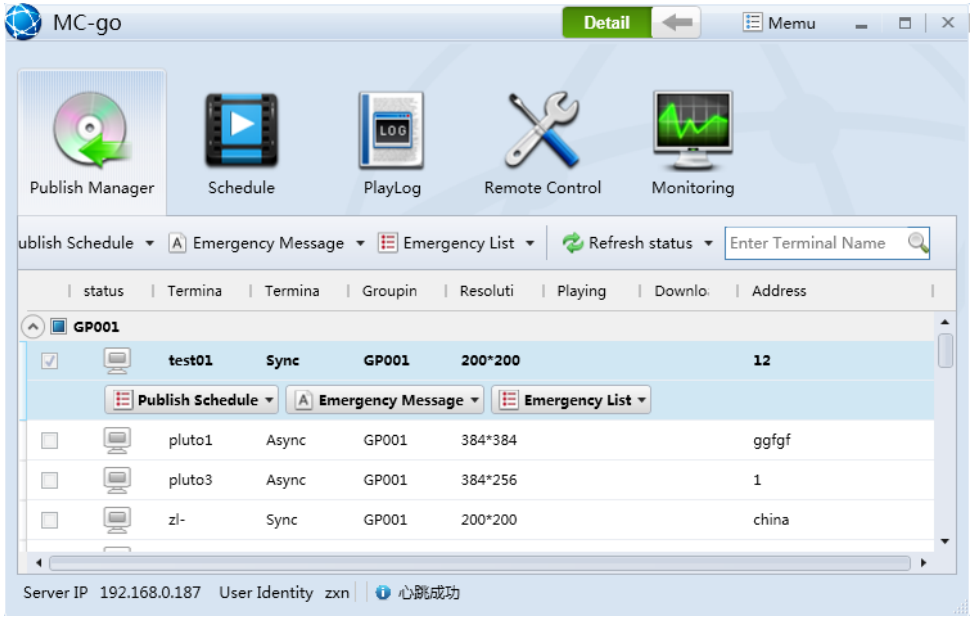
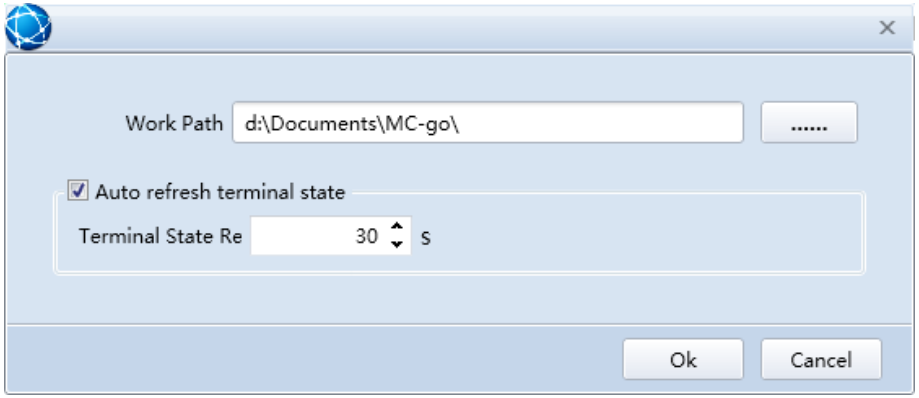



## 5.2 User configuration

The work path of schedule is stored at the Program, and schedule files and media files are all kept in this catalogue. Do not use default catalogue, unless only one manage center computer are running. It is required that one computer is arranged and a shared catalogue with sufficient memory



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capacity at LAN where the MC-go is located at based on unified arrangement to save the media and schedule. All of the MC-go should make the schedule storage path point to this directory to achieve collaboration.

As shown in the picture on the right，if you tick “Auto refresh terminal state”，MC-go shall refresh terminal state according to the set frequency.

## 5.3 Publish

### 5.3.1 Schedule

The making of Nova Cloud MC-go lists are similar to Novastudio2012, please refer to

NovaStudio2012 user manual (/Nova Cloud/docs/NovaStudio2012 software user manual) in the disc for details.

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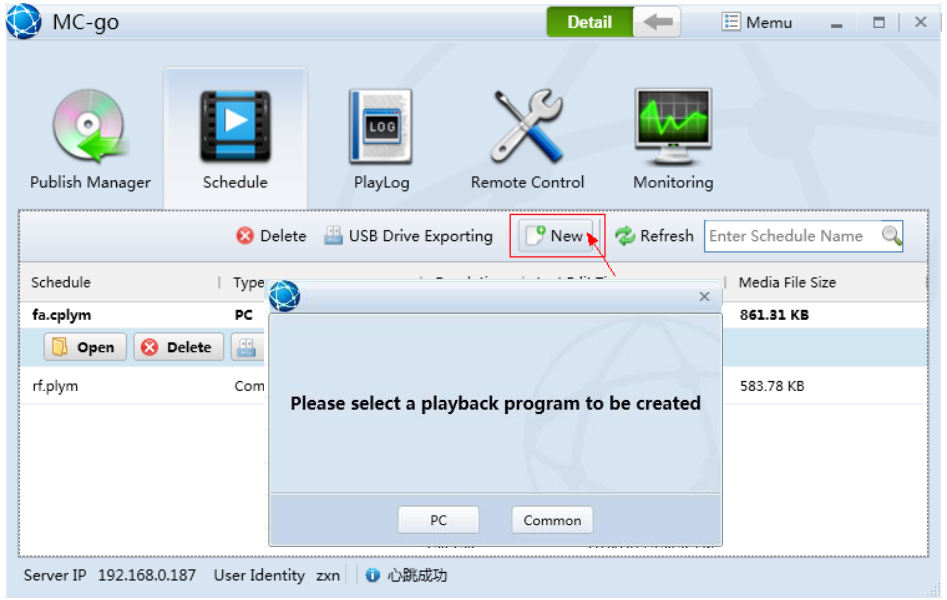


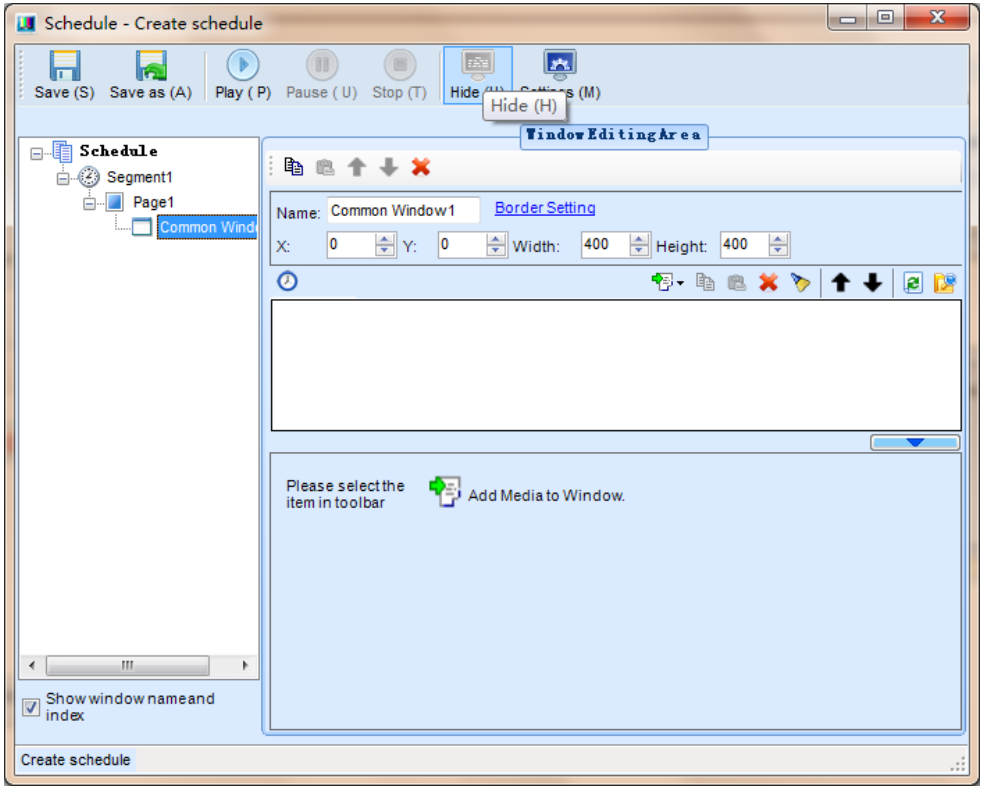


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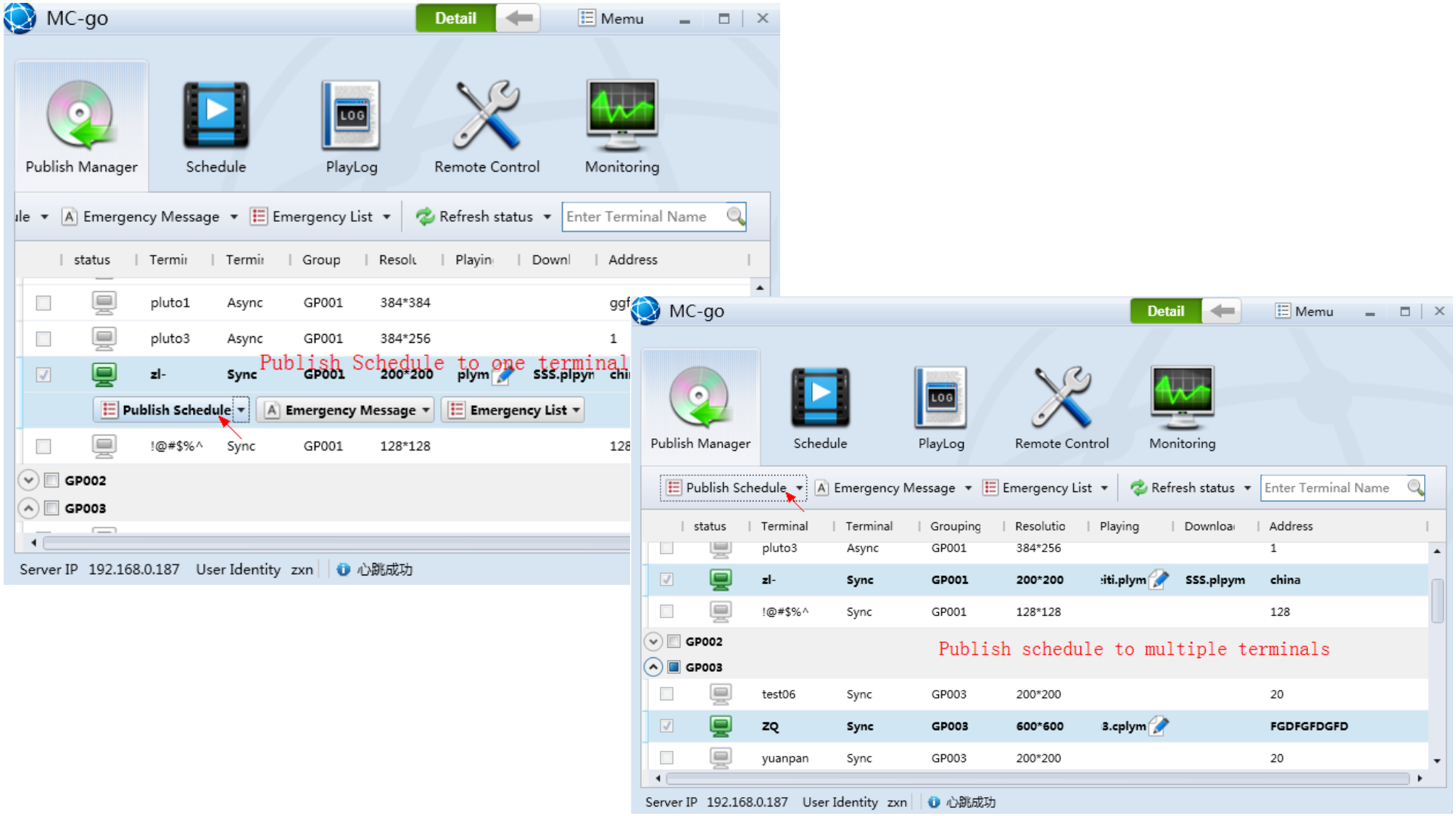
## 5.3.2 Publish Manager

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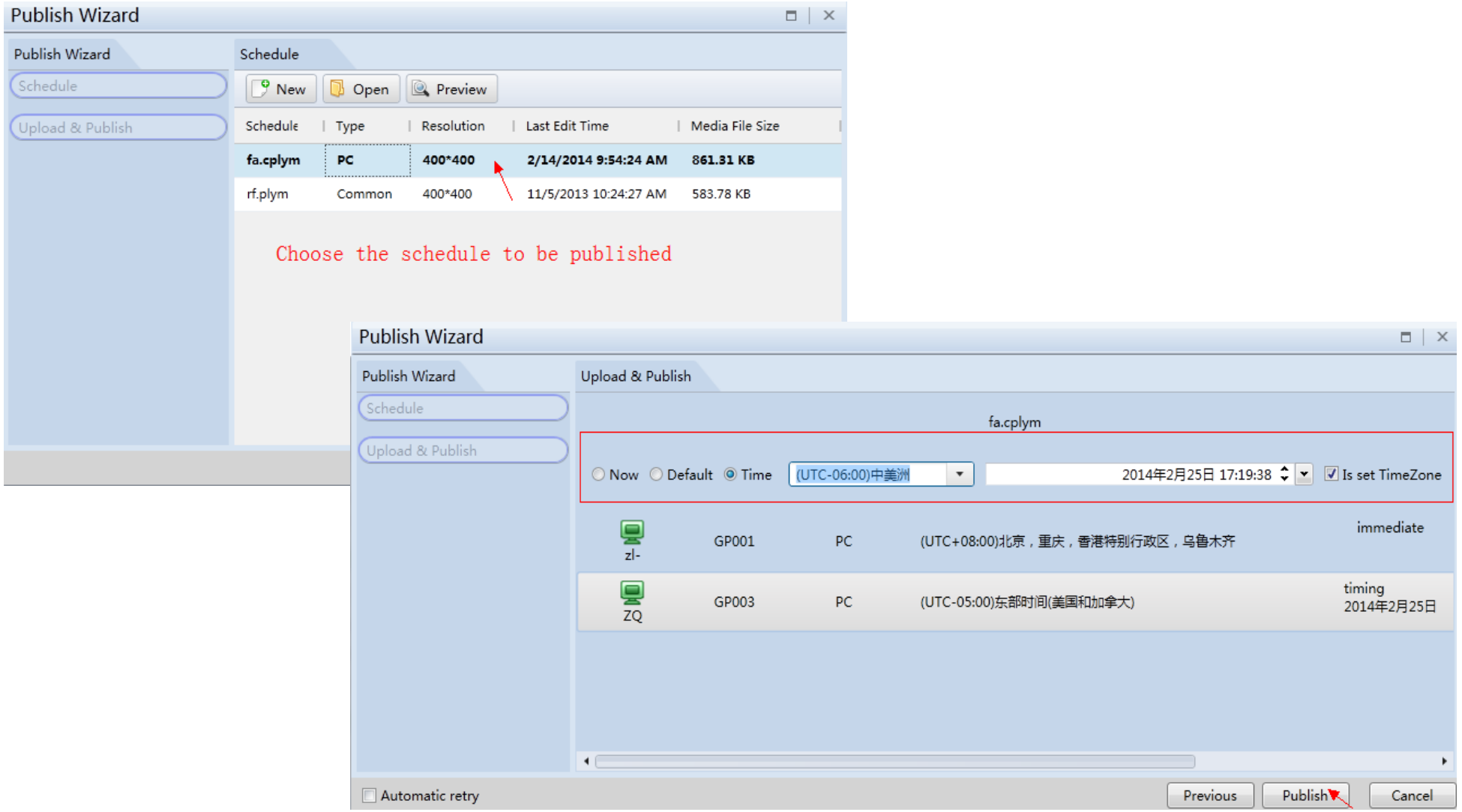


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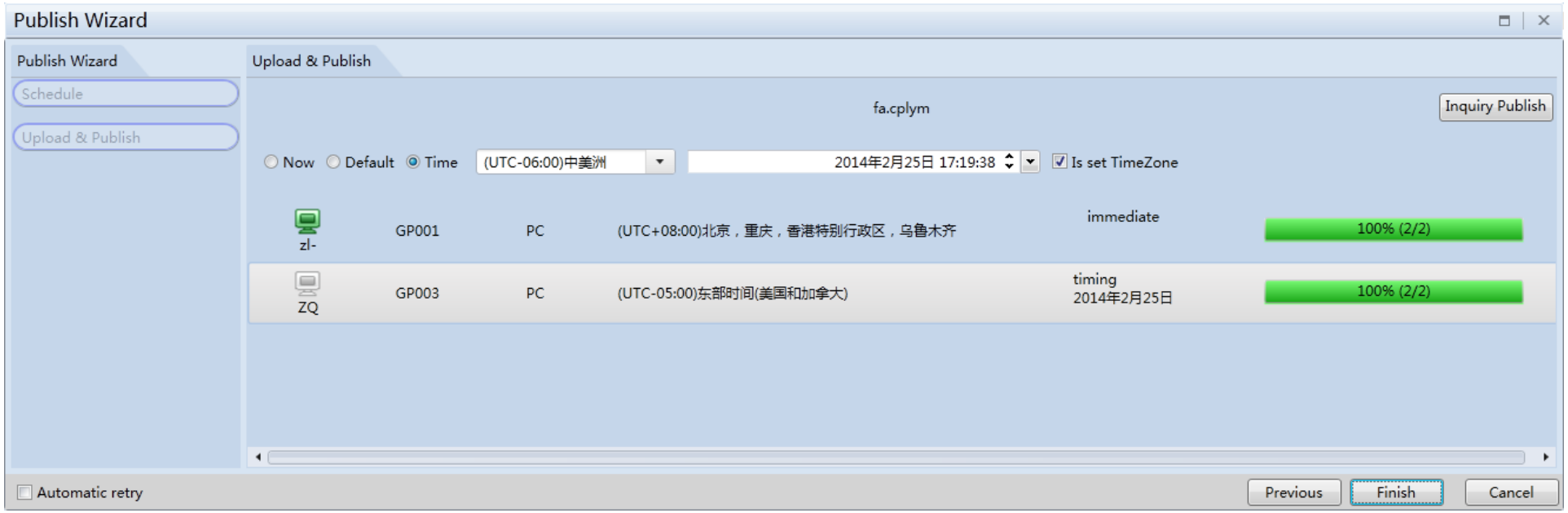


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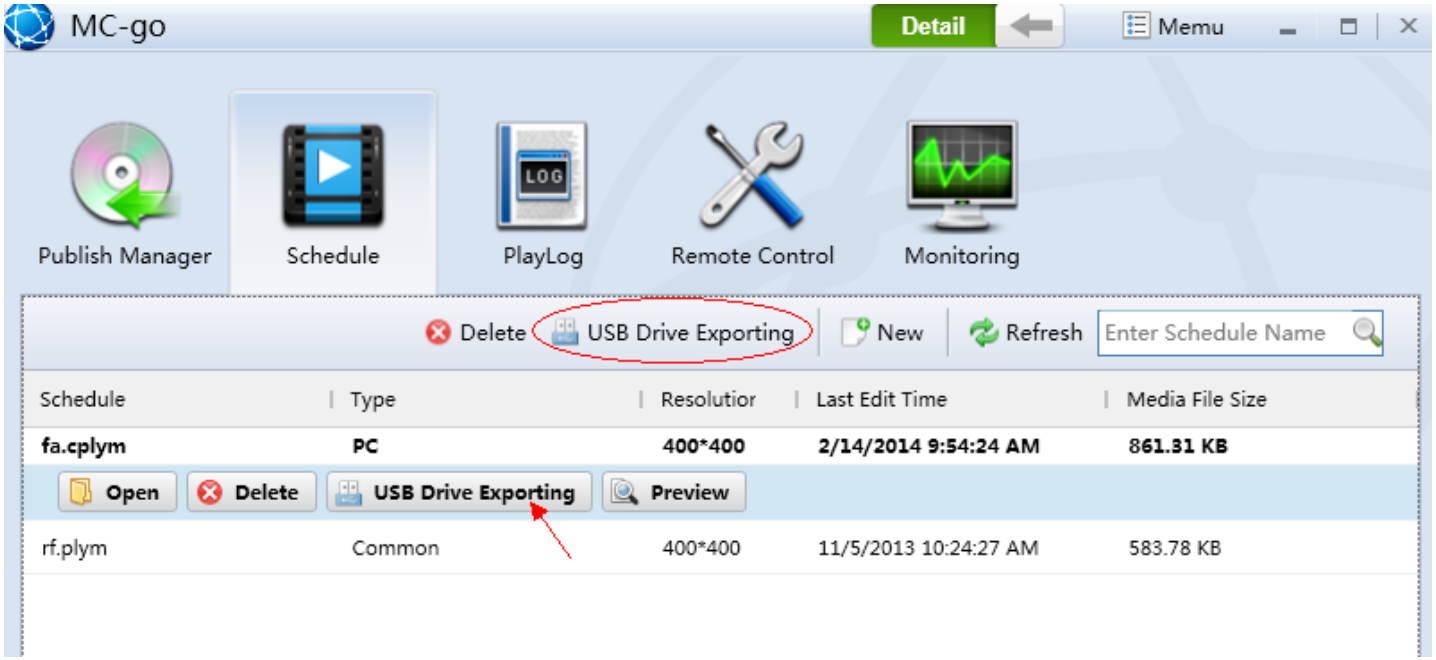
### 5.3.3 USB Dive Exporting

The scheduling export function is mainly used to export the scheduling to the mobile device when the terminal and the server cannot normally communicate (such as network interruption, etc.), and then, with the terminal "scheduling offline import" function, it is allowed to import the scheduling in the mobile equipment to ensure normal business operation of customers.

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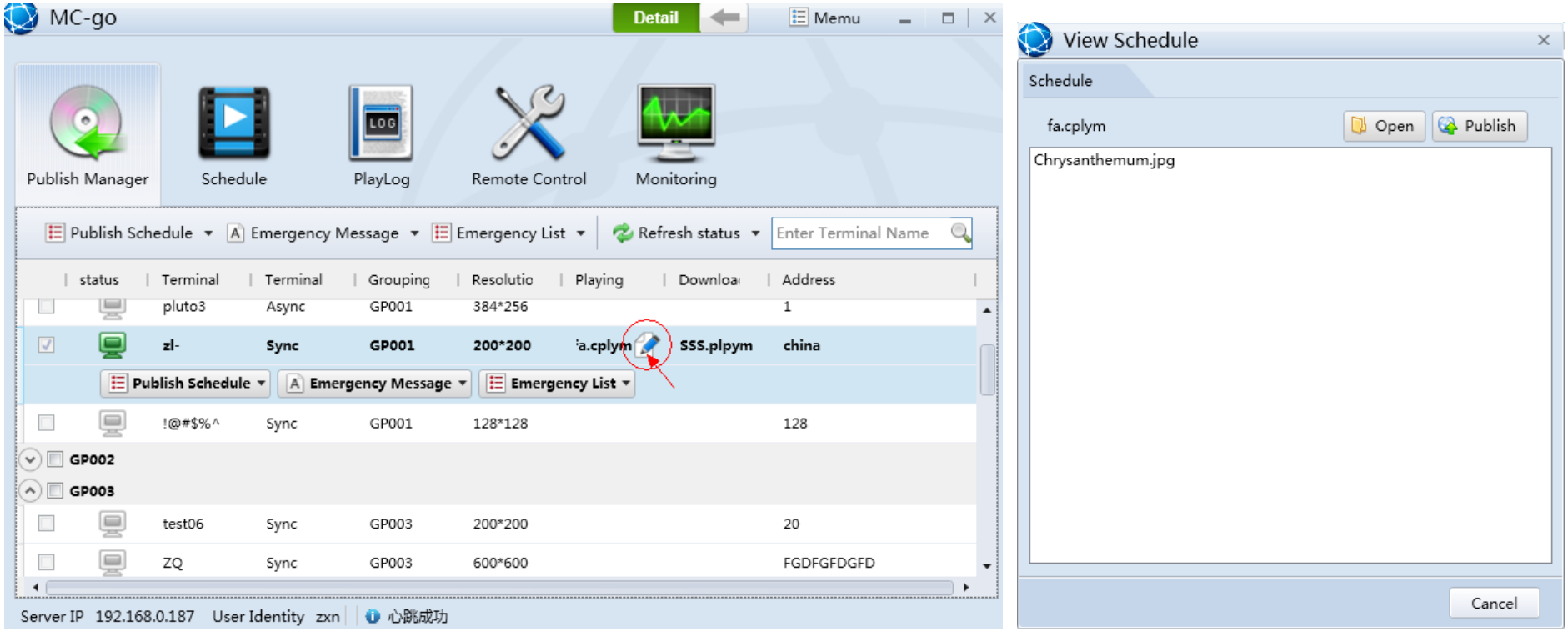
### 5.3.4 Readback and edit

Readback the playing program of remote display. and edit the program to meet new business requirement, this approach will provide users save even more time.

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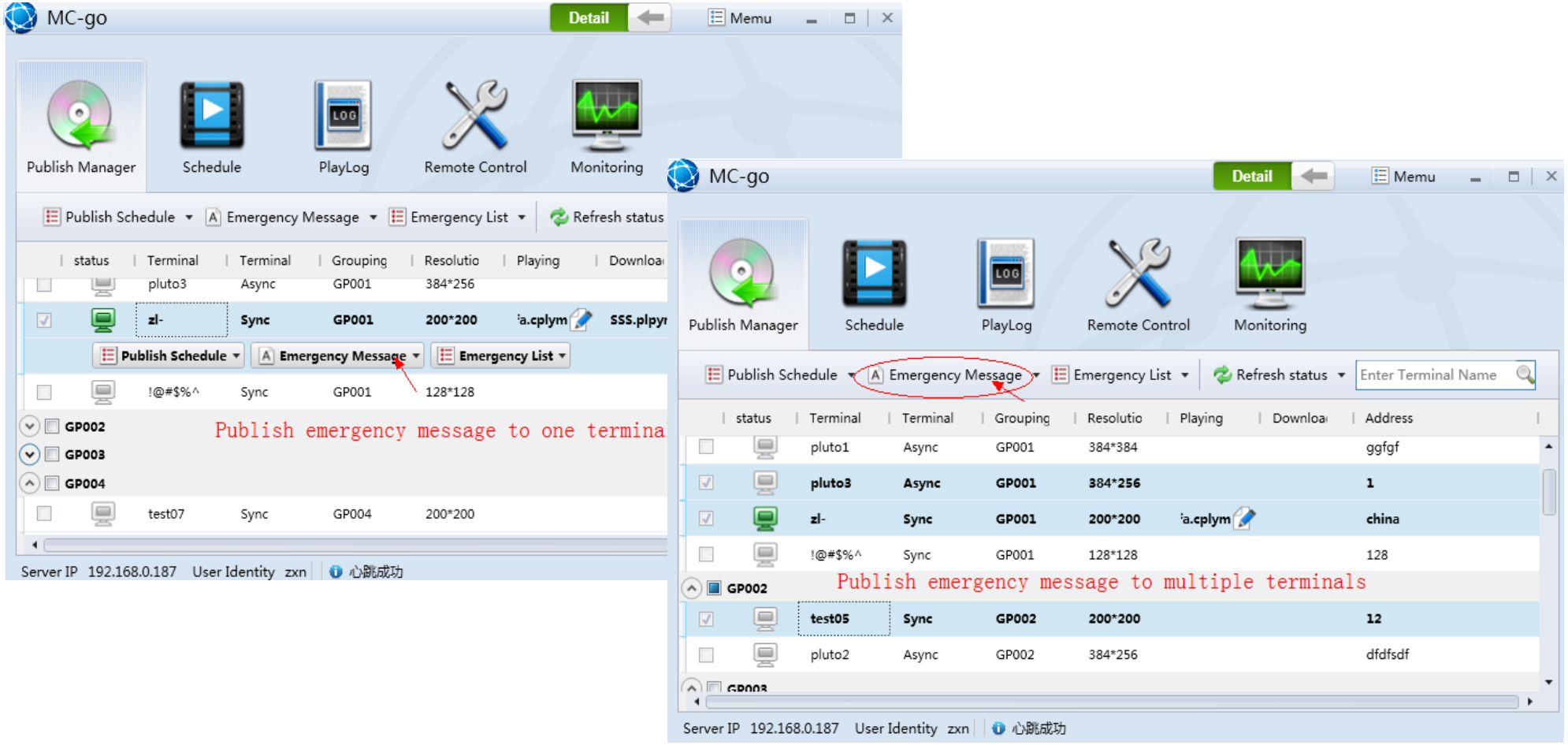
### 5.3.5 Emergency play

With the emergency inserted play function, it is available to insert a emergency list or Emergency Massage, and once the release succeeds, the contents inserted shall be played in the existing playing task instantly or at a fixed time.

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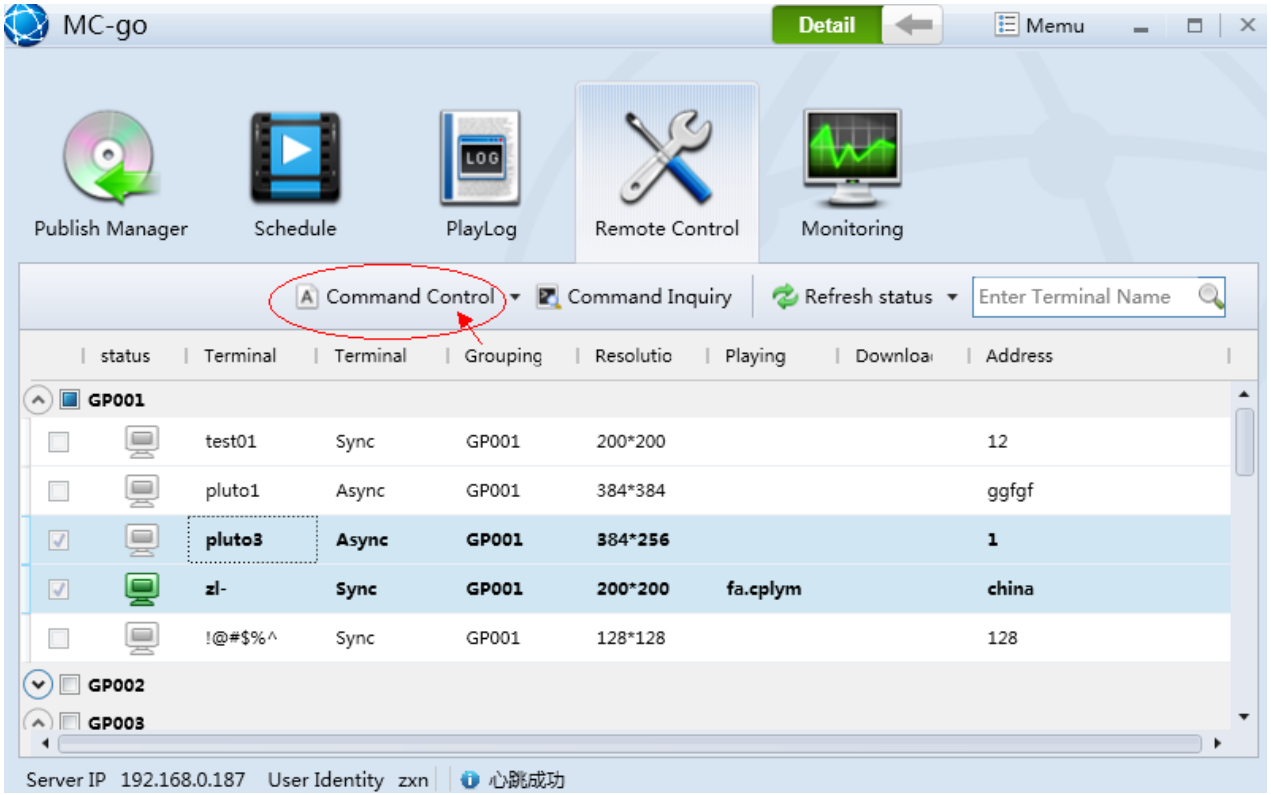
## 5.4 Remote control

Nova Cloud Remote control commands includes command function (function name) and setting.

Nova Cloud supports a series of terminal control functions, and proceeds to increase as required by customers.

The execution of Nova Cloud commands is divided into three ways as immediate execution, timed execution. Immediate execution means that once the command is received by terminal, execute the command at once; timed execution means that the command shall be locally cached after it is received by terminal, and after specified time point arrives, the expire date of the commands will be obsoleted and never be executed again.

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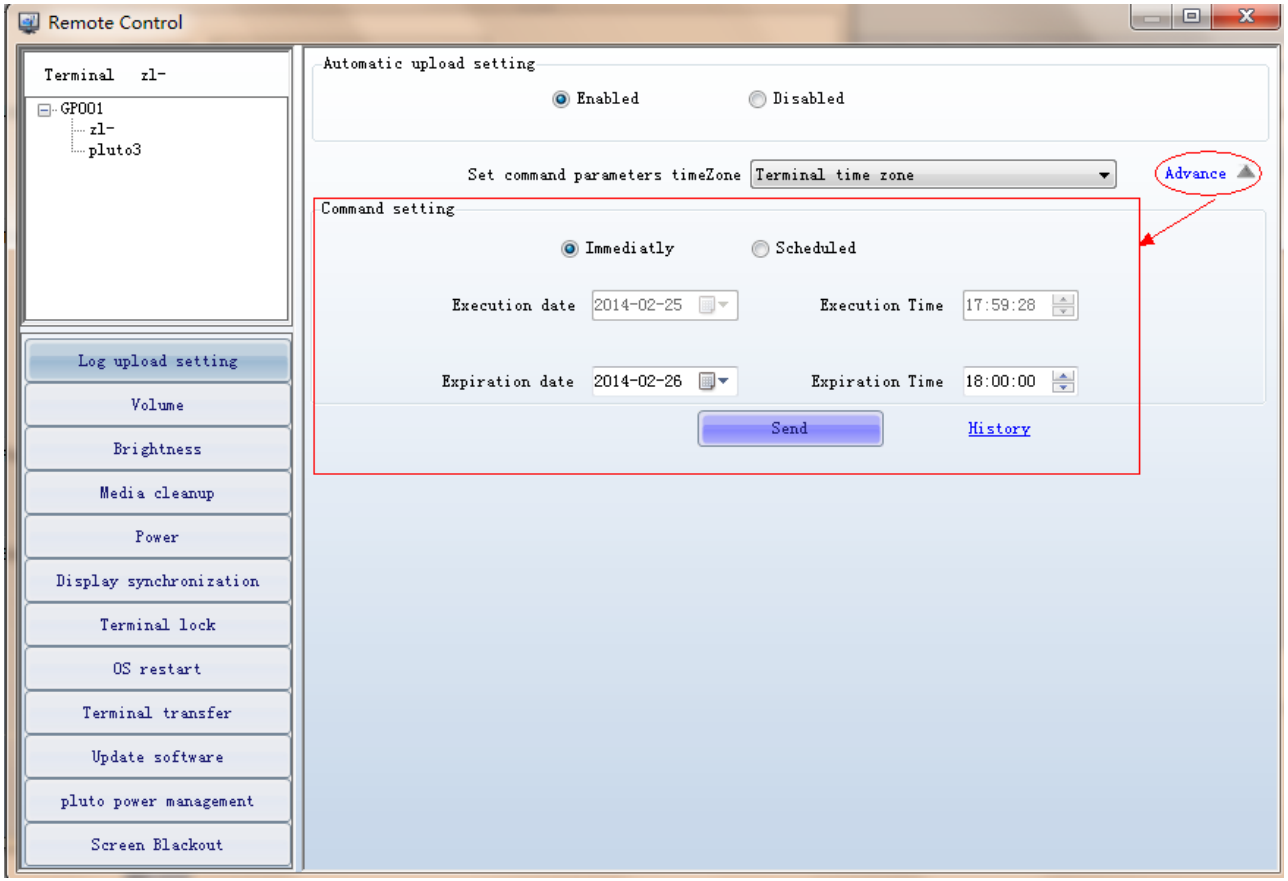


Selected command type, the command properties window appears. There are different parameters for different commands, yet the command attributes are the same.

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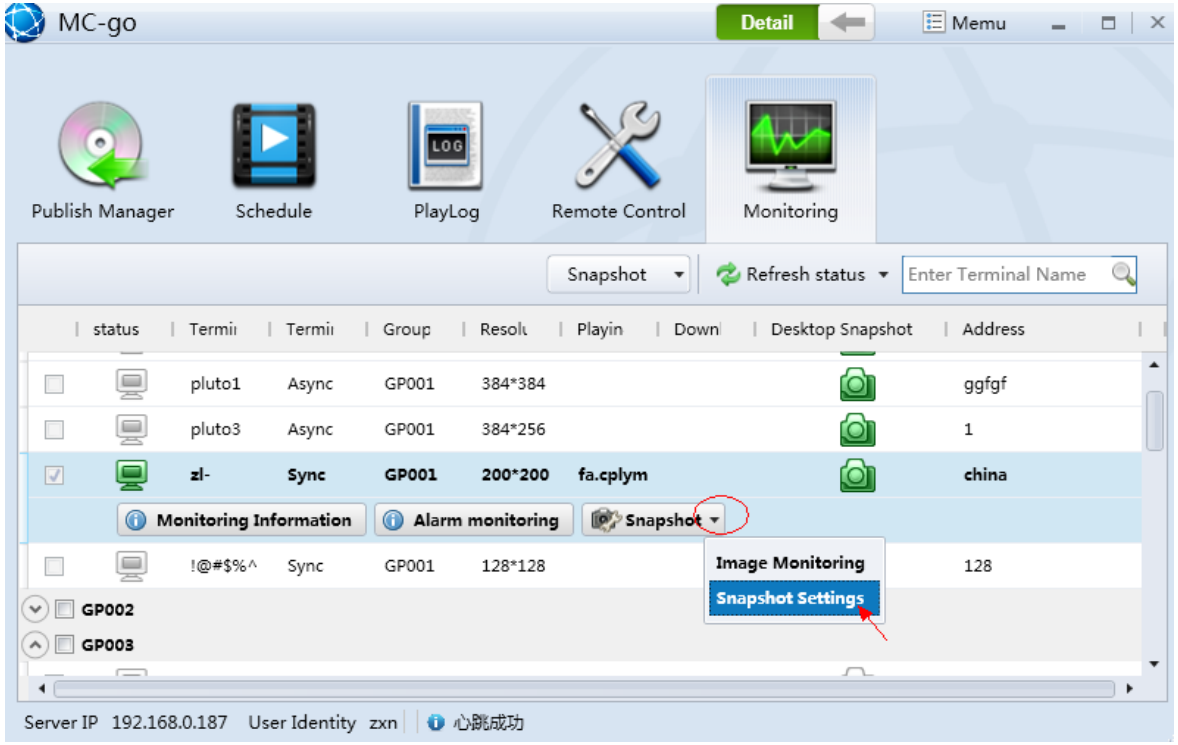
## 5.5 Monitoring

### 5.5.1 Picture monitoring

Nova Cloud picture monitor obtains the on-site pictures of terminal display in the way of regularly printing screen and making timed snapshot by network camera(Synchronization system support), you can check out the current and history pictures of terminal displays in management center and have them under control.

1) Snapshot settings

As shown below:

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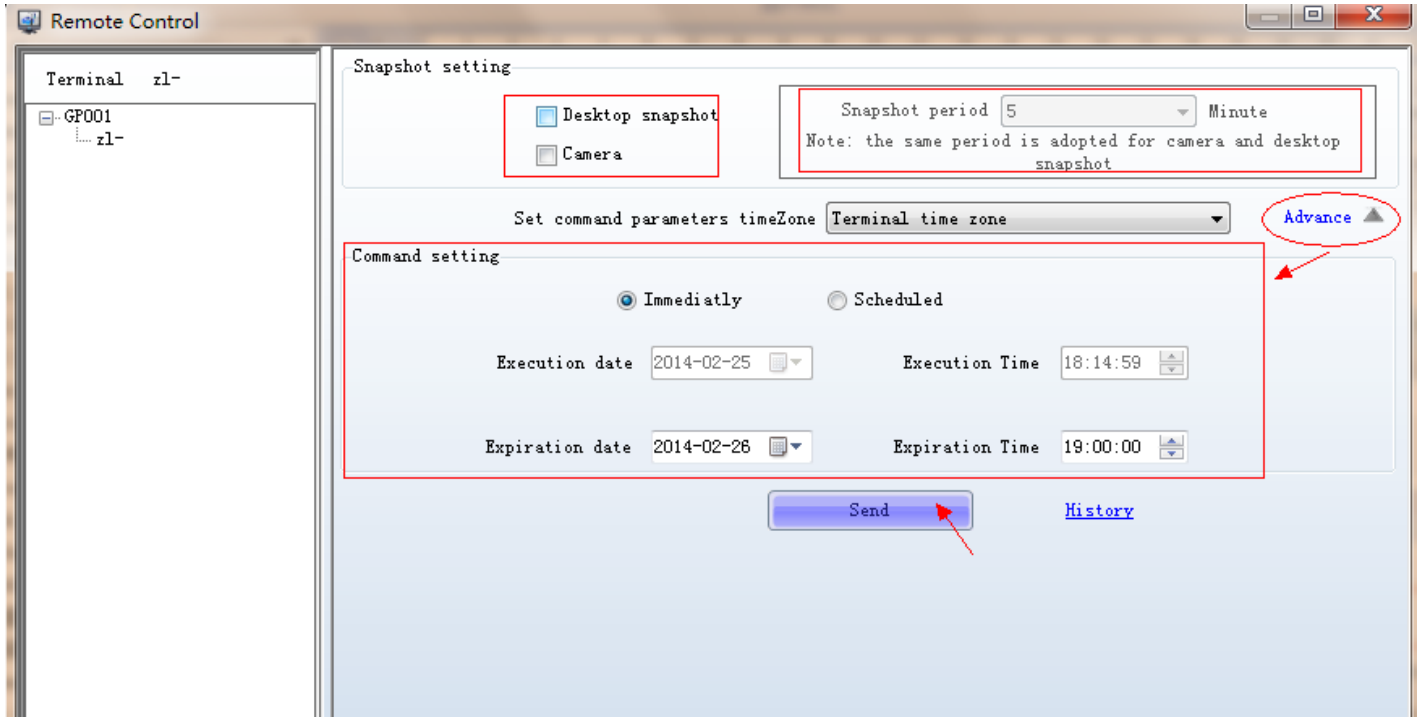


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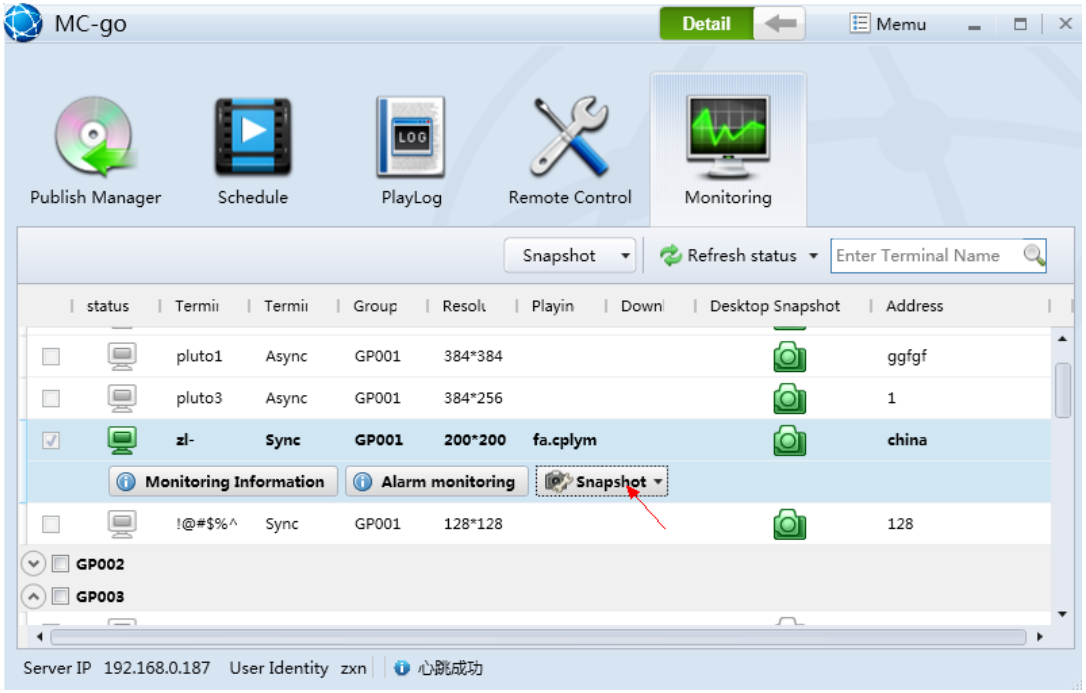
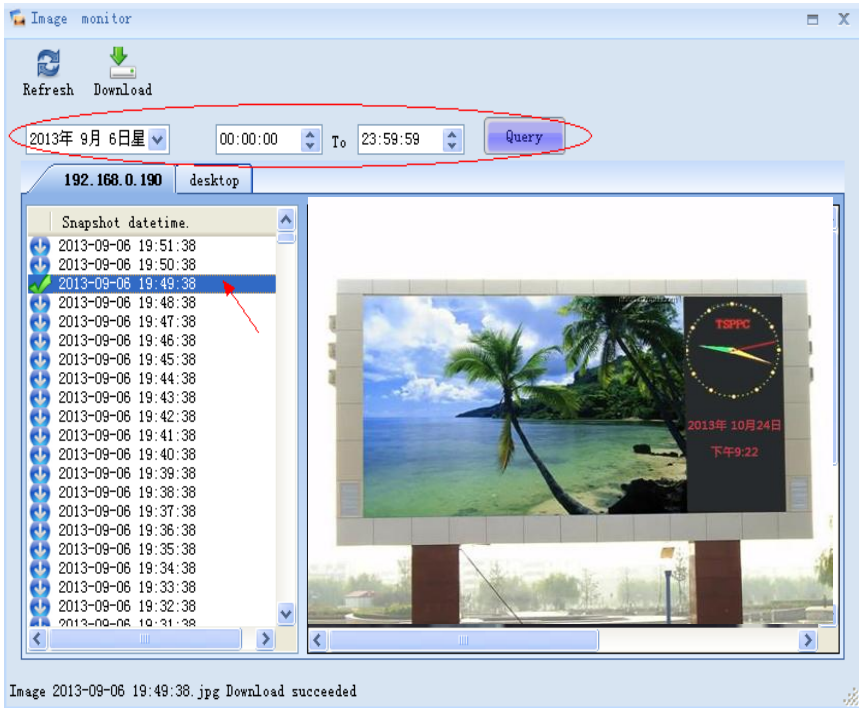
2) view images

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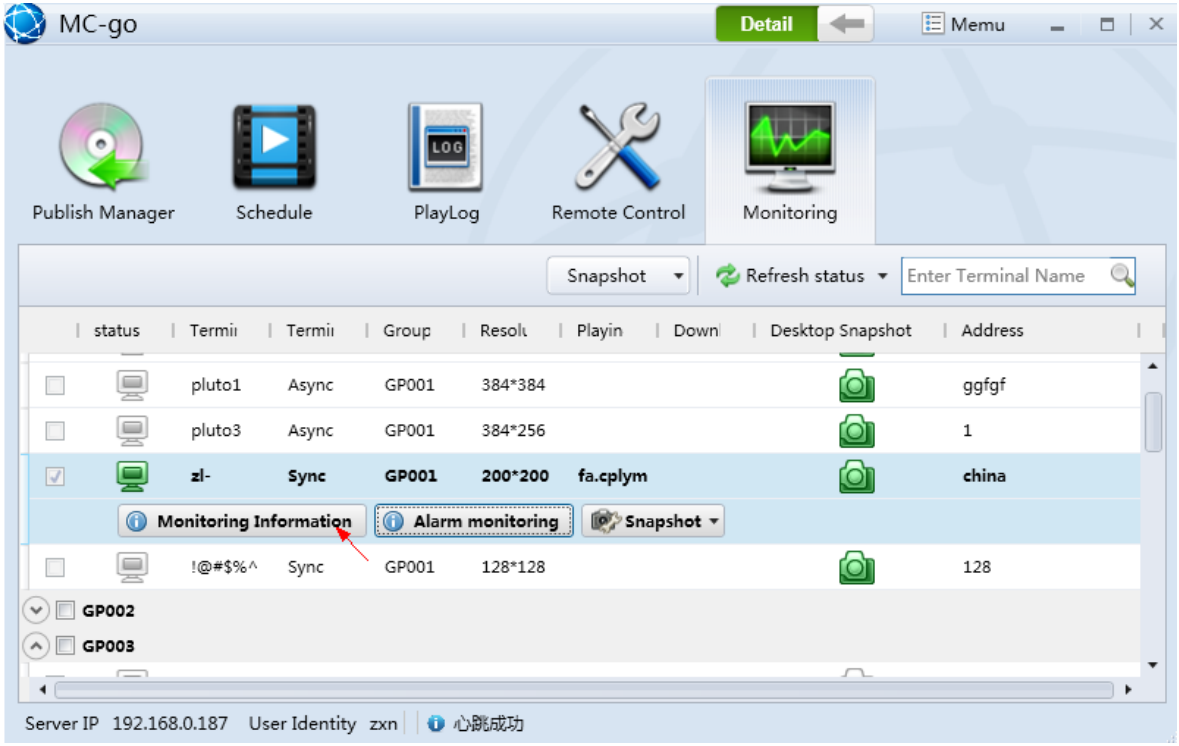
## 5.5.2 System monitoring

Nova Cloud system provides a tool that can remotely monitor the operation by operating with control and monitor system of NovaStar which is easy for maintenance by operator and provides higher efficiency for guaranteeing normal operation of terminal display system.

"Terminal monitor" page, its display in the same way as NovaLCT.

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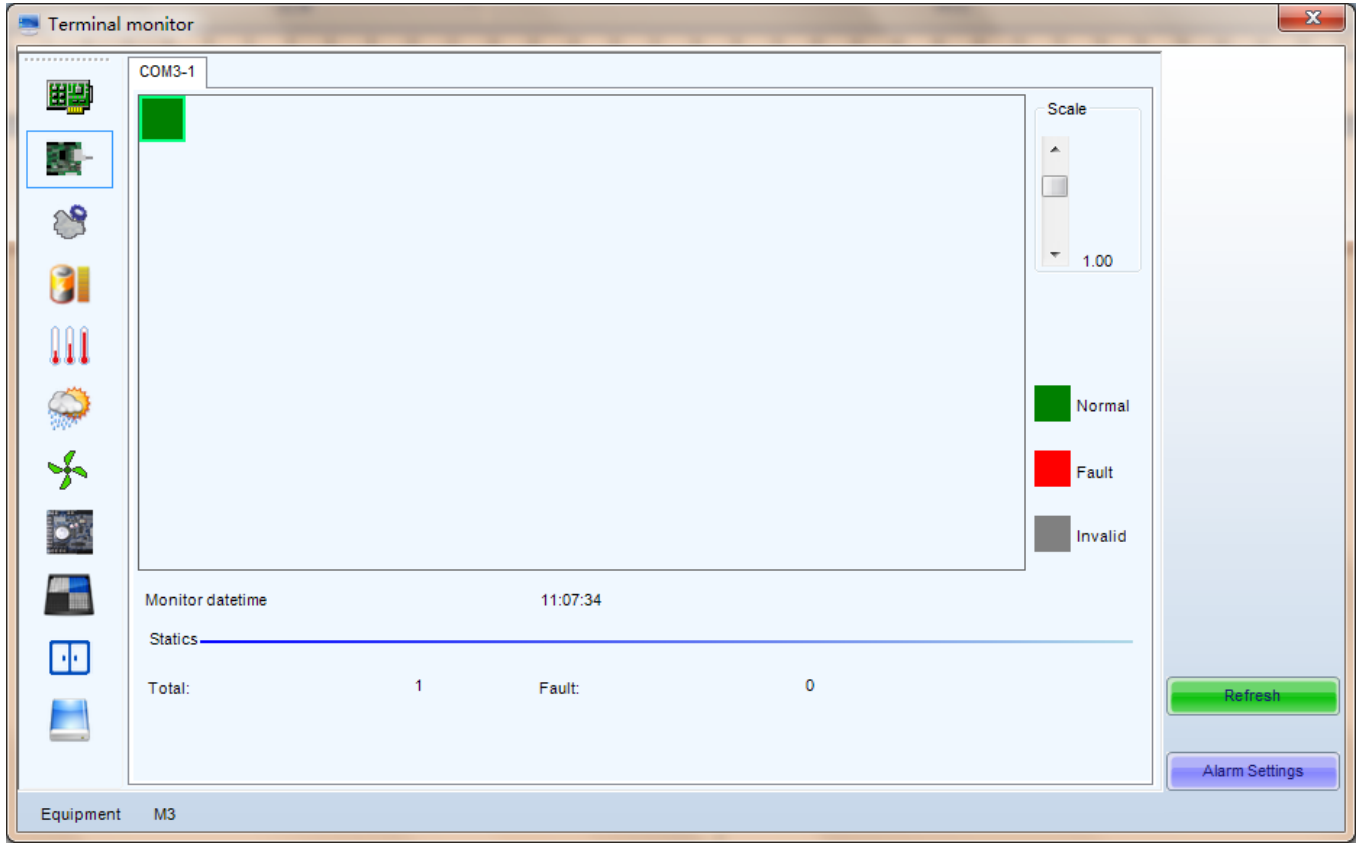


## 5.5.3 Alarm monitoring

View the abnormal state alarms of all hardware of terminal, count the alarm number, and timely determine the specific areas with faults and the fault occurrence times.

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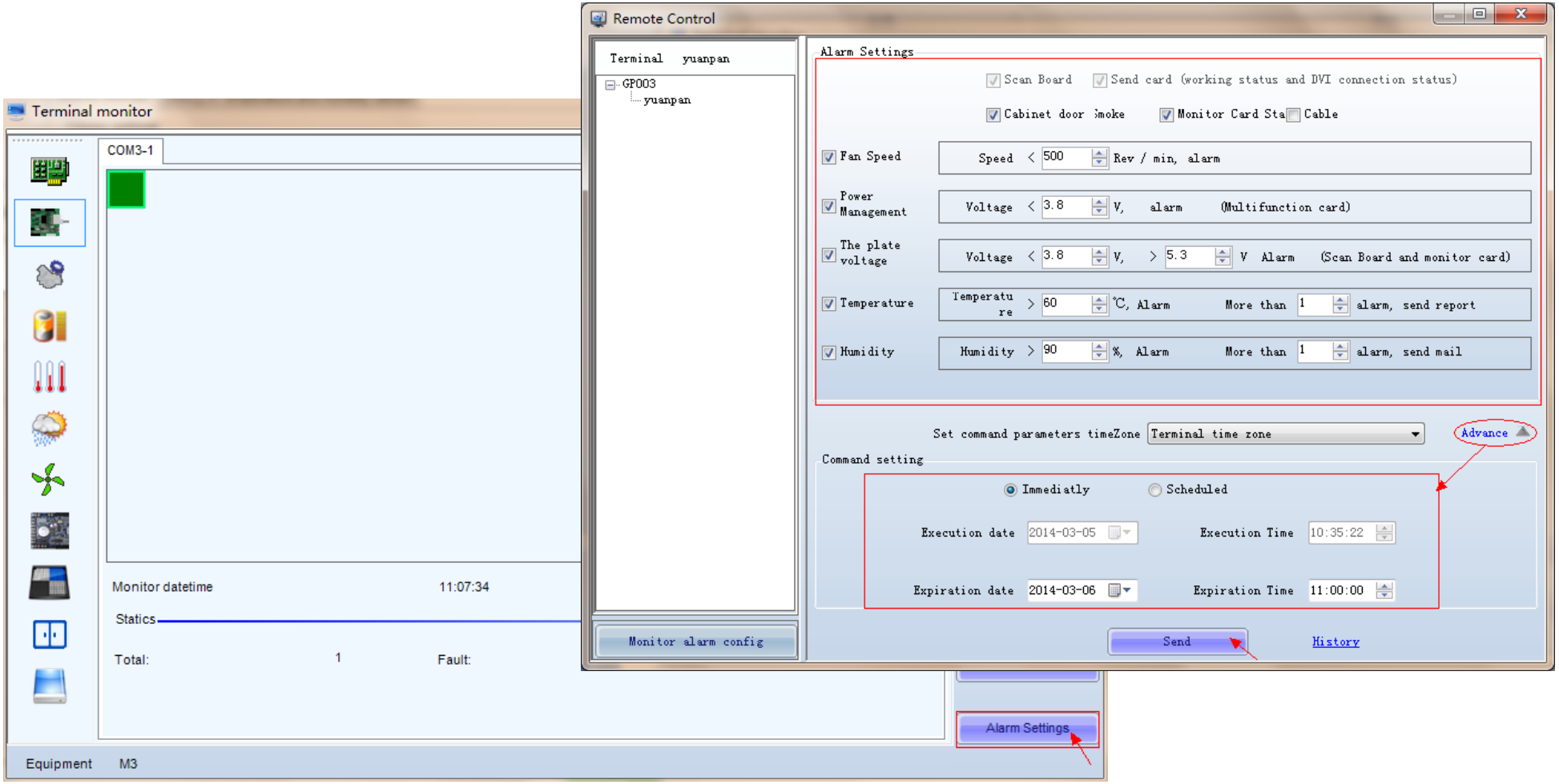
1) Alarm setting

Set the alarm conditions, and then send to the terminal, and when any one condition is satisfied, the terminal shall alarm the system.

Set the alarm conditions, and then send to the terminal, and when any one condition is satisfied, the terminal shall alarm the system.

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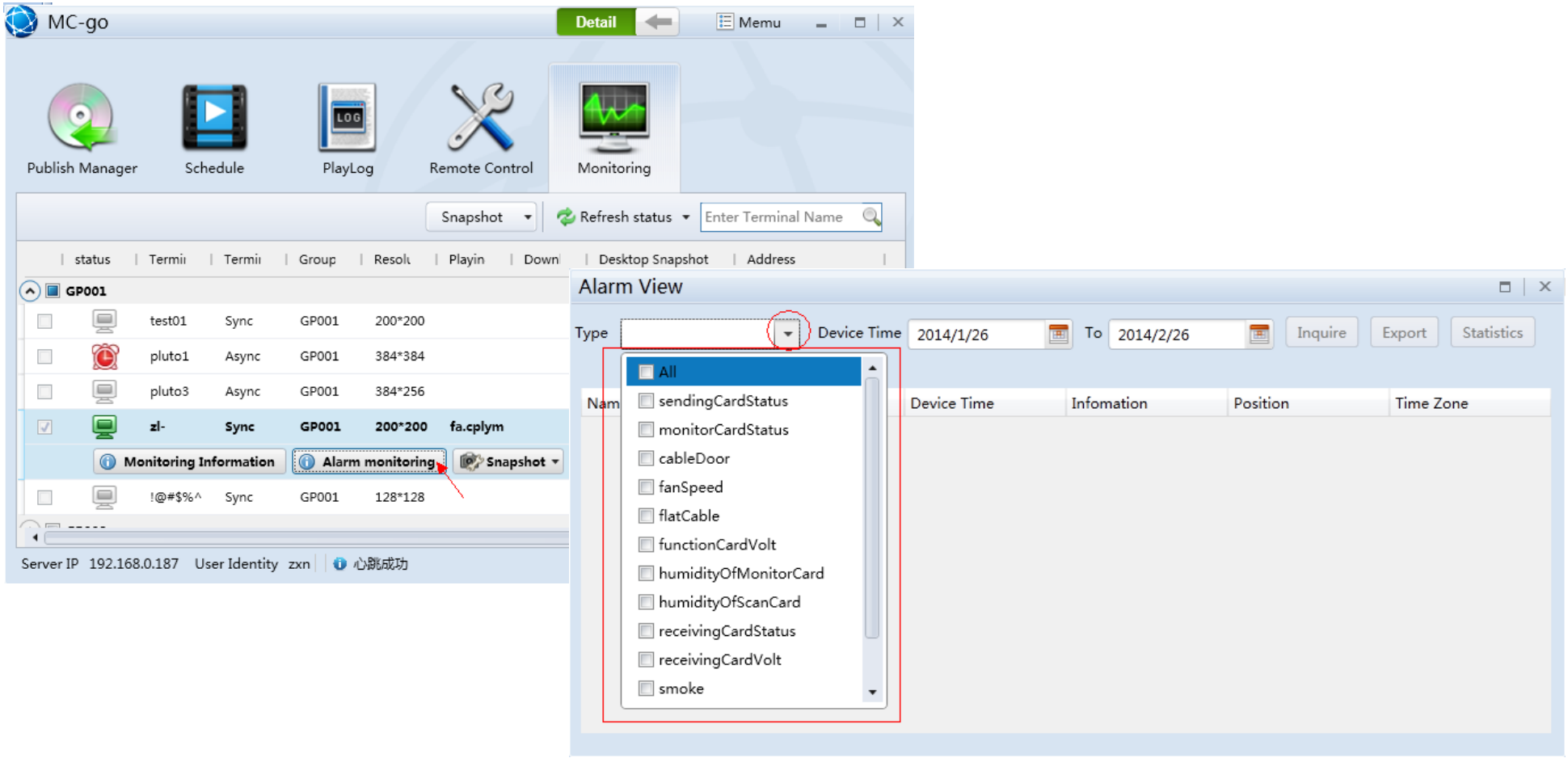
2) Alarm monitoring

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